

**GENERAL  
INFORMATION  
SUPPLEMENT**

**FOR**

**COMPLETING  
PERMIT  
APPLICATIONS**

Revised July 23, 2010

## GENERAL INFORMATION

Please review the enclosed general information prior to completing an application for a Minor Source Permit. The general information is provided as an aid for completing a permit application.

*Do I have to submit a Regulation 18.315 Registration?*

You must submit a Regulation 18.315 Registration if your emissions are:

- 40 tons per year or more but less than 75 tons per year of carbon monoxide;
- 25 tons per year or more but less than 40 tons per year of nitrogen oxides;
- 25 tons per year or more but less than 40 tons per year of sulfur dioxide;
- 25 tons per year or more but less than 40 tons per year of volatile organic compounds;
- 15 tons per year or more but less than 25 tons per year of particulate matter;
- 10 tons per year or more but less than 15 tons per year of PM<sub>10</sub>;
- 1.0 ton per year or more but less than 2 tons per year of any single hazardous air pollutant; or
- 3.0 tons per year or more but less than 5 tons per year of a combination of hazardous air pollutants

You must obtain a minor source permit if your actual emissions are equal to or above the following:

- 75 tons per year or more of carbon monoxide;
- 40 tons per year or more of nitrogen oxides;
- 40 tons per year or more of sulfur dioxide;
- 40 tons per year or more of volatile organic compounds;
- 25 tons per year or more of particulate matter;
- 15 tons per year or more of PM<sub>10</sub>
- 0.5 tons per year or more of lead;
- 2.0 ton per year or more of any single hazardous air pollutant;
- 5.0 tons per year or more of any combination of hazardous air pollutants; or
- 25 tons per year or more of any other air contaminant

You must obtain a minor source or Title V permit if your facility is one of the following:

- Medical waste incinerators;
- Rendering plants;
- Pathological waste incinerators, including crematories;
- Chemical process plants;
- Hazardous waste treatment storage or disposal facilities;
- Sour gas process plants;
- Lead acid battery recycling facilities; or
- Charcoal plants.

You must obtain a minor source or Title V permit if you facility is subject to an under 40 CFR Part 60, Part 61, or Part 63 as of June 27, 2008, except for:

- 40 CFR Part 60, Subpart AAA (Wood Stoves);
- 40 CFR Part 60, Subpart JJJ (Petroleum Dry Cleaners);
- 40 CFR Part 63, Subpart M (Perchloroethylene Dry Cleaners);
- 40 CFR Part 63, Subpart Q (Industrial Cooling Towers);
- Sources subject to 40 CFR Part 60, Subpart Dc (Steam Generating Units) which only burn gas;.
- 40 CFR Part 63, Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines) for non-Part 70 sources (minor sources);
- 40 CFR Part 63, Subpart WWWW (Hospital Ethylene Oxide Sterilizers);
- 40 CFR Part 63, Subpart CCCCC (Gasoline Dispensing Facilities);
- 40 CFR Part 60, Subpart IIII (Stationary Compression Ignition Internal Combustion Engines) for engines with a displacement of less than 30 liters per cylinder;
- 40 CFR Part 60, Subpart JJJJ (Stationary Spark Ignition Internal Combustion Engines); and
- 40 CFR Part 63, Subpart HHHHHH (Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources).

## *Do I need a Title V Air Permit?*

The following sources shall be subject to Title V Air permitting

1. Sources with emissions greater than 100 tons per year of a single criteria pollutant; or
2. Sources with emissions greater than 10 tons per year (tpy) or more of any hazardous air pollutant (HAP) listed pursuant to section 112(b) of the Act; or
3. 25 tpy or more of any combination of such hazardous air pollutants (HAP).
4. In addition, certain other non-major sources may require an operating permit. See Chapter 3 Sec.26.302 of Regulation #26 for more information.

**Construction and Installation:** No proposed new source subject to Minor Source Permit or Title V requirements can begin construction before obtaining the proper Permit. No source subject to the Minor Source Permits requirements will begin construction of a new emissions unit or begin modification to an existing emissions unit unless the modification for the existing facility qualifies and has been approved by the Department as a DeMinimis change in accordance with §19.407(C) of Regulation #19 or §18.307(C) of Regulation #18. No source subject to the Title V/Operating Permits requirements will begin construction of a new emissions unit or begin modification to an existing emissions unit unless the modification for the existing facility qualifies and has been approved by the Department as a minor modification in accordance with Chapter 10 Sec. 26.1002 of Regulation #26.

**Applicable Regulations:** Before completing this application, the applicant should review all state and/or federal air pollution control regulations that apply to the facility. Not all applicable regulations will apply to all sources. This information is provided as a general overview to aid in determining which applicable regulations pertain to a source.

**The Arkansas Air Pollution Control Code (Regulation #18, the Air Code):** This regulation is a State regulation and is applicable to any source that emits or has the potential to emit any air contaminant. Permit requirements under Regulation #18 are not Federally enforceable. The Air Code applies to all permits.

**State Implementation Plan Regulations (SIP, Regulation #19)** pertaining to air pollution control requirements for sources subject to the federal Clean Air Act, including Prevention of Significant Deterioration (PSD) regulations. Sources subject to Regulation #26 are not subject to Chapter 4 of Regulation #19, but are subject to all other sections of Regulation #19.

**Standards of Performance for New Stationary Sources (NSPS)** contained in 40 CFR Part 60 pertaining to specific categories of new, modified, and reconstructed sources of air pollutants.

The federal NSPS, 40 CFR Part 60, apply to certain categories of new, reconstructed, and modified stationary sources of air pollution. The standards set emission limits for specific pollutants for the emission source category. For most affected source categories, the standards require reporting and emission testing requirements. The Department has been delegated the authority to administer and enforce most NSPS. For a list of the NSPS subtitles, please contact the department.

**National Emission Standards for Hazardous Air Pollutant (NESHAP)** contained in 40 CFR Parts 61 and 63 and Section 112 of the federal Clean Air Act.

The federal NESHAP, 40 CFR Part 61 and 63, apply to certain categories of stationary sources, both existing and new, emitting air pollutants designated as hazardous under Section 112 (Title III) of the federal Clean Air Act (CAA). 40 CFR Part 61 is the existing NESHAP regulations, 40 CFR Part 63 includes the Maximum Achievable Control Technology (MACT) standards, and Section 112 of the act pertains to the promulgation of the list of 187 Hazardous Air Pollutants (HAPs). The additional information section contains a list of the 187 HAPs. For a list of NESHAP subtitles, please contact the Department. Section 112(n) excludes electric utilities from regulation until a determination is made that such regulation is appropriate and necessary.

**Confidential information:** All construction, emission, and operating information contained in the permit application and any changes, modifications, or alterations in the permit application submitted to the Department in writing will become part of the Department's permanent files and will be available for public inspection unless clearly marked confidential. The applicant must submit the confidential applications separately from

publicly available information, and accompanied by a notarized affidavit of confidentiality on a form furnished by the Department. In addition, submit a complete public (non-confidential) application to ADEQ.

**Permit Fees:** There are permit fees associated with based on permitted volume of air pollutants emitted from the facility. The applicant must pay the initial permit issuance fees and permit modification fees before the final permit issuance. The applicant must pay the annual permit fees to keep the permit active. The Department will calculate the permit fees (in accordance with Chapter 5 of Regulation #9) and send an invoice to the facility. A copy of Chapter 5 of Regulation #9 is attached.

**Electronic Application Submittal:** The applicant may submit electronically portions of one copy of the application if the applicant has the capability to do so. Text portions of electronic submittals should either be ASCII text files or in Microsoft Word format. Contact the Department for approval before submitting applications using any other software.

**Permit Processing:** ADEQ will not consider an application complete until the applicant submits all information required to consider the application. An application consists of a completed Permit Application Form along with the enclosures and attachments referred to in the Instructions for Application Form and Attachments and any additional information required for Prevention of Significant Deterioration (PSD) applications or MACT determinations. Upon declaring the permit application administratively complete, the Department will provide a public notice to the permittee to publish in the local paper. A 10-day comment period for the receipt of application will begin on the date of publication of the notice. ADEQ cannot issue a draft permit before the close of the 10-day period, pursuant to Act 163 of 1993.

The project engineer will review each application for technical completeness of information submitted. During the review, ADEQ may contact the applicant for clarification or additional information. When the applicant submits all pertinent information, the project engineer will draft a permit and forward the draft permit to the Air Division staff for in-house review.

**A public notice and comment period is required for all draft permits except Deminimis and Administrative Amendments.** The public notice results in a minimum period of 30 days after publication of the notice before ADEQ can issue a proposed permit. A proposed Operating Air Permit is subject to a 45 day EPA comment period. In some cases, the draft permit and EPA comment periods can run concurrently. Final permit issuance may be further delayed if a public hearing or substantial response to comments is necessary. The applicant is responsible for the costs associated with publication of public notices.

### **ADDITIONAL INFORMATION**

The following information is included as reference material to aid in completing an operating air permit application:

1. Example Emission Calculations
2. List of Hazardous Air Pollutants (HAPs)
3. List of Non-VOC Hydrocarbons
4. Chapter 5 of Regulation #9 - Permit Fees
5. Insignificant Activities List

## EXAMPLE EMISSION CALCULATIONS

Note: These calculations are **examples only**. The values used in these examples should not be used to prepare your permit application.

### Facility: Wood Furniture Manufacturing Operation

#### SN-01: Wood Working Operations - controlled by cyclone

From AP-42 Table 10.4.1:

Emission factor for sander dust from cyclone = 5.0 lb/hr

Emission factor for other wood working operations from cyclone = 2.0 lb/hr

Therefore, for sawing and sanding operations routed to a common cyclone, the particulate matter (wood dust) emission factor is 7.0 lb/hr.

$PM/PM_{10} = 7.0 \text{ lb/hr}$

$PM/PM_{10} = 7.0 \text{ lb/hr} \times 8760 \text{ hr/yr} \times \text{ton}/2000 \text{ lb} = 30.7 \text{ tons/yr}$

The permit applicant wants to limit the hours of operation for this process in order to reduce the annual permitted emissions. The following information is used to determine maximum annual emissions. The wood working operations operate two 8-hour shifts per day and occasionally on Saturdays. The plant closes for two (2) weeks per year for vacation. Based on this information, the maximum operating hours for the wood working processes are 16 hrs/day, 6 days/wk, and 50 wks/yr. However, the wood working processes never operate more than 400 hours per month. The applicant requests the permit to limit operating hours to 400 hours per month for the wood working operations at the plant.

$PM/PM_{10} = 7.0 \text{ lb/hr} \times 400 \text{ hr/mo} \times 12 \text{ mo/yr} \times \text{ton}/2000 \text{ lb} = 16.8 \text{ tons/yr}$

#### SN-02: Spray Paint Booth

Based on equipment specifications for the paint booth, the throughput capacity is 6 gallons of paint per hour. Two enamel coatings and a clear coat are applied (at different times) in this booth. The VOC content of the coatings are indicated in the Physical Data section of the MSDS in "Percent Volatile **by Volume**." In order to perform the VOC calculations the percent volatile **by weight** must be obtained from the manufacturer of the coatings. The percent volatile **by weight** of the black enamel coating as stated in the manufacturer's additional information is 70%. The percent volatile **by weight** of the white enamel coating as stated in the manufacturer's additional information is 66%. The percent volatile **by weight** of the clear coat as stated in the manufacturer's additional information is 74%. In order to have maximum flexibility, the applicant assumes that each paint is sprayed at the maximum throughput capacity of 6 gallons per hour rate to determine the "Worst Case" hourly emission rate for each Hazardous Air Pollutant (HAP). Based on historic data, the applicant knows that no more than 750 gallons of paint are applied monthly. The applicant requests to be limited to 750 gallons per month of paint. All information below can be found in the Hazardous Ingredients section, the Physical Data section, or the manufacturer's attachment to the MSDS sheets provided below.

**Black Enamel:** Weight per gallon = 8.22 pounds

VOC: Wt% = 70%

$VOC = 8.22 \text{ lb/gal} (6 \text{ gal/hr}) (0.70) = 34.52 \text{ lb/hr}$ . ROUND TO 34.6 lb/hr.

$VOC = 8.22 \text{ lb/gal} (750 \text{ gal/mo}) (0.70) (12 \text{ mo/yr}) (\text{ton}/2000 \text{ lb}) = \underline{25.9 \text{ tons/yr}}$ .

**Xylene:** Wt% = 18%

$8.22 \text{ lb/gal} (6 \text{ gal/hr}) (0.18) = 8.8776 \text{ lb/hr}$ .

$8.22 \text{ lb/gal} (750 \text{ gal/mo}) (0.18) (12 \text{ mo/yr}) (\text{ton}/2000 \text{ lb}) = \underline{6.6582 \text{ tons/yr}}$ .

**Toluene:** Wt% = 10%

$8.22 \text{ lb/gal} (6 \text{ gal/hr}) (0.10) = 4.932 \text{ lb/hr}$ .

$8.22 \text{ lb/gal} (750 \text{ gal/mo}) (0.10) (12 \text{ mo/yr}) (\text{ton}/2000 \text{ lb}) = \underline{3.699 \text{ tons/yr}}$ .

**MIBK:** Wt% = 6%

$8.22 \text{ lb/gal} (6 \text{ gal/hr}) (0.06) = 2.9592 \text{ lb/hr}$ .

$8.22 \text{ lb/gal} (750 \text{ gal/mo}) (0.06) (12 \text{ mo/yr}) (\text{ton}/2000 \text{ lb}) = \underline{2.2194 \text{ tons/yr}}$ .

**White Enamel:** Weight per gallon = 8.64 pounds

VOC: Wt% = 66%

VOC = 8.64 lb/gal (6 gal/hr) (0.66) = 34.21 lb/hr. ROUND TO 34.3 lb/hr.

VOC = 8.64 lb/gal (750 gal/mo) (0.66) (12 mo/yr) (ton/2000 lb) = 25.7 tons/yr.

**Xylene:** Wt% = 6%

8.64 lb/gal (6 gal/hr) (0.06) = 3.1104 lb/hr.

8.64 lb/gal (750 gal/mo) (0.06) (12 mo/yr) (ton/2000 lb) = 2.3328 tons/yr.

**Toluene:** Wt% = 18%

8.64 lb/gal (6 gal/hr) (0.18) = 9.3312 lb/hr.

8.64 lb/gal (750 gal/mo) (0.18) (12 mo/yr) (ton/2000 lb) = 6.9984 tons/yr.

**MIBK:** Wt% = 23%

8.64 lb/gal (6 gal/hr) (0.23) = 11.9232 lb/hr.

8.64 lb/gal (750 gal/mo) (0.23) (12 mo/yr) (ton/2000 lb) = 8.9424 tons/yr.

**Clear Coat:** Weight per gallon = 7.48 pounds

VOC: Wt% = 74%

VOC = 7.48 lb/gal (6 gal/hr) (0.74) = 33.21 lb/hr. ROUND TO 33.3 lb/hr.

VOC = 7.48 lb/gal (750 gal/mo) (0.74) (12 mo/yr) (ton/2000 lb) = 24.9 tons/yr.

**Xylene:** Wt% = 26%

7.48 lb/gal (6 gal/hr) (0.26) = 11.6688 lb/hr.

7.48 lb/gal (750 gal/mo) (0.26) (12 mo/yr) (ton/2000 lb) = 8.7561 tons/yr.

**MIBK:** Wt% = 35%

7.48 lb/gal (6 gal/hr) (0.35) = 15.708 lb/hr.

7.48 lb/gal (750 gal/mo) (0.35) (12 mo/yr) (ton/2000 lb) = 11.781 tons/yr.

**Worst Case VOC and HAPs from the three coatings above**

**VOC:** 34.5 lb/hr and 25.9 tons/yr (Black Enamel)

**Xylene:** 11.6688 lb/hr and 8.7561 tons/yr (Clear Coat)

**Toluene:** 9.3321 lb/hr and 6.9984 tons/yr (White Enamel)

**MIBK:** 15.708 lb/hr and 11.781 tons/yr (Clear Coat)

### **SN-03: Drying Oven**

A 15 million Btu/hr (MMBtu/hr) natural gas fired drying oven is used to dry and cure the paints after application in the spray paint booth. Natural gas has a fuel heat value of approximately 1000 scf/MMBtu. From Supplement F of AP-42 Tables 1.4-1, 1.4-2, and 1.4-3, the emission factors for natural gas combustion from sources between 10-100 million Btu/hr heat input are:

Emission factor for PM<sub>10</sub> is 7.5 lb/10<sup>6</sup> scf of natural gas & the emission factor for PM is 6.2 lb/10<sup>6</sup> scf of natural gas. Therefore, the emission factor for total particulate (PM/PM<sub>10</sub>) is 13.7 lb/10<sup>6</sup> scf (7.5 + 6.2).

Emission factor for SO<sub>2</sub> is 0.6 lb/10<sup>6</sup> scf of natural gas.

Emission factor for non-methane hydrocarbons (VOC) is 5.8 lb/10<sup>6</sup> scf of natural gas less 52% methane. Therefore, the VOC emission factor is 2.78 lb/10<sup>6</sup> scf (5.8 x (1 - 0.52)).

Emission factor for CO is 35 lb/10<sup>6</sup> scf of natural gas.

Emission factor for NO<sub>x</sub> is 140 lb/10<sup>6</sup> scf of natural gas.

PM/PM<sub>10</sub> = 15 MMBtu/hr x 1000 scf/MMBtu x 13.7 lb/MM scf = 0.2 lb/hr

PM/PM<sub>10</sub> = 0.2 lb/hr x 8760 hr/yr x ton/2000 lb = 0.9 tons/yr

$$\text{SO}_2 = 15 \text{ MMBtu/hr} \times 1000 \text{ scf/MMBtu} \times 0.6 \text{ lb/MM scf} = 0.01 \text{ lb/hr (use } < 0.1 \text{ lb/hr)}$$
$$\text{SO}_2 = 0.1 \text{ lb/hr} \times 8760 \text{ hr/yr} \times \text{ton}/2000 \text{ lb} = 0.5 \text{ tons/yr}$$

$$\text{VOC} = 15 \text{ MMBtu/hr} \times 1000 \text{ scf/MMBtu} \times 2.78 \text{ lb/MM scf} = < 0.1 \text{ lb/hr}$$
$$\text{VOC} = 0.1 \text{ lb/hr} \times 8760 \text{ hr/yr} \times \text{ton}/2000 \text{ lb} = 0.5 \text{ tons/yr}$$

$$\text{CO} = 15 \text{ MMBtu/hr} \times 1000 \text{ scf/MMBtu} \times 35 \text{ lb/MM scf} = 0.6 \text{ lb/hr}$$
$$\text{CO} = 0.6 \text{ lb/hr} \times 8760 \text{ hr/yr} \times \text{ton}/2000 \text{ lb} = 2.7 \text{ tons/yr}$$

$$\text{NO}_x = 15 \text{ MMBtu/hr} \times 1000 \text{ scf/MMBtu} \times 140 \text{ lb/MM scf} = 2.1 \text{ lb/hr}$$
$$\text{NO}_x = 2.1 \text{ lb/hr} \times 8760 \text{ hr/yr} \times \text{ton}/2000 \text{ lb} = 9.2 \text{ tons/yr}$$

**EMISSION RATE TABLE**

<b>AFIN:</b> 00-00000	<b>Date</b> March 12, 2009	<b>Page</b> 1	<b>of</b> 2
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EMISSION POINT NO.	YEAR INSTALLED OR LAST MODIFIED	PROCESS DESCRIPTION (Descriptive Name)	SCC Code	STACK HEIGHT (FT)	INSIDE STACK DIMENSIONS (FT)	STACK GAS TEMP. (°F)	STACK GAS VELOCIT Y (FT/SEC)	UTM COORDINATES	
								HORIZ. (E)	VERT. (N)
SN-01	1987	Wood Working Operations		12	1	amb	10	559708	3850967

MAXIMUM OPERATING HOURS			ARE THE HOURS OF OPERATION OF THE UNIT RELIED UPON TO LIMIT THE ANNUAL POTENTIAL EMISSIONS?				HEAT INPUT CAPACITY (Boiler, Dryer, Furnace, Etc.) MMBTU/HR	FUEL HEAT VALUE MMBTU/UNIT	FUEL % S
HRS/DAY	HRS/MTH	HRS/YR	YES	X	NO				
16	400						N/A	N/A	

PROPOSED MAXIMUM PRODUCTION/OPERATION RATES				RAW MATERIAL, PRODUCT, FUEL, ETC.	ARE THE HOURLY PRODUCTION/OPERATION RATES RELIED UPON TO LIMIT THE PROPOSED HOURLY MAXIMUM EMISSION RATES? _____
ANNUAL	MONTHLY	HOURLY	UNITS (gal, lb, ft, etc.)		
					ARE THE ANNUAL PRODUCTION/OPERATION RATES RELIED UPON TO LIMIT THE PROPOSED ANNUAL MAXIMUM EMISSION RATES? _____

Pollutant (Complete the HAPs EMISSION RATE TABLE for all VOC emissions)	PROPOSED MAXIMUM EMISSIONS		Regulations (NSPS, PSD, etc.)	EMISSION CONTROL EQUIPMENT		
	LBS/HOUR	TONS/YEAR		TYPE (Scrubber, Cyclone, Etc.)	EQUIPMENT MANUFACTURER AND MODEL NUMBER(S)	%Control Efficiency
PM	7.0	16.8	SIP	Cyclone		
PM <sub>10</sub>	7.0	16.8	SIP	Cyclone		
SO <sub>2</sub>						
VOC						
CO						
NO <sub>x</sub>						

**EMISSION RATE TABLE**

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EMISSION POINT NO.	YEAR INSTALLED OR LAST MODIFIED	PROCESS DESCRIPTION (Descriptive Name)	SCC Code	STACK HEIGHT (FT)	INSIDE STACK DIMENSION S (FT)	STACK GAS TEMP. (°F)	STACK GAS VELOCIT Y(FT/SEC)	UTM COORDINATES	
								HORIZ. (E)	VERT. (N)
SN-02	1987	Paint Booth		12'	1.4'	Ambient	27	559708	3850967

MAXIMUM OPERATING HOURS			ARE THE HOURS OF OPERATION OF THE UNIT RELIED UPON TO LIMIT THE ANNUAL POTENTIAL EMISSIONS?				HEAT INPUT CAPACITY (Boiler, Dryer, Furnace, Etc.) MMBTU/HR	FUEL HEAT VALUE MMBTU/UNIT	FUEL % S
HRS/DAY	HRS/MTH	HRS/YR	YES		NO	x			
12	200	2,400	YES		NO	x		N/A	

PROPOSED MAXIMUM PRODUCTION/OPERATION RATES				RAW MATERIAL, PRODUCT, FUEL, ETC.	ARE THE HOURLY PRODUCTION/ THROUGHPUT RATES RELIED UPON TO LIMIT THE PROPOSED HOURLY MAXIMUM EMISSION RATES? <u>No</u>
ANNUAL	MONTHLY	HOURLY	UNITS (gal, lb, ft, etc.)		
9,000	750	6	Gallons	paint products	
					ARE THE ANNUAL PRODUCTION/ THROUGHPUT RATES RELIED UPON TO LIMIT THE PROPOSED ANNUAL MAXIMUM EMISSION

POLLUTANT (Complete the HAPs EMISSION RATE TABLE for all VOC emissions)	PROPOSED MAXIMUM EMISSIONS		Regulations (NSPS, PSD, etc.)	EMISSION CONTROL EQUIPMENT		
	LBS/HOUR	TONS/YEAR		TYPE (Scrubber, Cyclone, Etc.)	EQUIPMENT MANUFACTURER AND MODEL NUMBER(S)	% CONTROL EFFICIENCY
PM	0	0	N/A	Particulate Filter	Clean Screen-2PF	N/A (filter controls particulate overspray - not VOC emissions)
PM <sub>10</sub>	0	0	N/A			
SO <sub>2</sub>	0	0	N/A			
VOC	34.5	25.9	SP			
CO	0	0	N/A			
NO <sub>x</sub>	0	0	N/A			



EMISSION RATE TABLE

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EMISSION POINT NO.	YEAR INSTALLED OR LAST MODIFIED	PROCESS DESCRIPTION (Descriptive Name)	STACK HEIGHT <sup>above</sup> ground (FT)	INSIDE STACK DIMENSIONS (FT) (diameter or l x h)	STACK GAS TEMP (°F)	STACK GAS VELOCITY (FT/SEC)	UTM COORDINATES <sup>point</sup> of discharge	
							HORIZ. (E)	VERT. (N)
SN-03	1988	Drying Oven	12.5'	1.0'	200	50 ft/sec	588	3928

MAXIMUM OPERATING HOURS			ARE THE HOURS OF OPERATION OF THE UNIT RELIED UPON TO LIMIT THE ANNUAL POTENTIAL EMISSIONS?				HEAT INPUT CAPACITY (Boiler, Dryer, Furnace, Etc.) MMBTU/HR		FUEL HEAT VALUE MMBTU/UNIT		FUEL % S
HRS/DAY	HRS/MTH	HRS/YR	YES		NO	x					
12	200	2,400	YES		NO	x		15	1000 MMBTU/SCF	N/A	

PROPOSED MAXIMUM PRODUCTION/OPERATION RATES				RAW MATERIAL, PRODUCT, FUEL, ETC.	ARE THE HOURLY PRODUCTION/ THROUGHPUT RATES RELIED UPON TO LIMIT THE PROPOSED HOURLY MAXIMUM EMISSION RATES? <u>No</u>
ANNUAL	MONTHLY	HOURLY	UNITS(gal, lb, ft, etc.)		
36,000	3,000	15	1,000 scf	Natural Gas	
					ARE THE ANNUAL PRODUCTION/ THROUGHPUT RATES RELIED UPON TO LIMIT THE PROPOSED ANNUAL MAXIMUM EMISSION RATES? <u>Yes</u>

POLLUTANT (Complete the HAPs EMISSION RATE TABLE for all VOC emissions)	PROPOSED MAXIMUM EMISSIONS		Regulations (NSPS, PSD, etc.)	EMISSION CONTROL EQUIPMENT		
	LBS/HOUR	TONS/YEAR		TYPE (Scrubber, Cyclone, Etc.)	EQUIPMENT MANUFACTURER AND MODEL NUMBER(S)	% CONTROL EFFICIENCY
PM	0.2	0.9	Code	None	N/A	N/A
PM <sub>10</sub>	0.2	0.9	SIP			
SO <sub>2</sub>	0.1	0.5	SIP			
VOC	0.1	0.5	SIP			
CO	0.6	2.7	SIP			
NO <sub>x</sub>	2.1	9.2	SIP			

## **APPENDIX A - HAZARDOUS AIR POLLUTANTS**

# HAZARDOUS AIR POLLUTANTS

Table 1 - Relative Toxicity Ratings  
Includes Corrections through July 23, 2010

CAS NUMBER	CHEMICAL NAME	Relative Toxicity
75-07-0	Acetaldehyde	0.90
60-35-5	Acetamide	0.10
75-05-8	Acetonitrile	0.40
98-86-2	Acetophenone	0.10
53-96-3	2-Acetylaminoflourene	0.0005
107-02-8	Acrolein	0.004
79-06-1	Acrylamide	0.002
79-10-7	Acrylic acid	0.06
107-13-1	Acrylonitrile	0.03
107-05-1	Allyl chloride	0.10
92-67-1	4-Aminobiphenyl	0.10
62-53-3	Aniline	0.10
90-04-0	o-Anisidine	0.10
1332-21-4	Asbestos	Special
71-43-2	Benzene (including benzene from gasoline)	0.20
92-87-5	Benzidine	0.00003
98-07-7	Benzotrichloride	0.0006
100-44-7	Benzyl chloride	Acute
92-52-4	Biphenyl	1.0
117-81-7	Bis(2-ethylhexyl)phthalate (DEHP)	0.50
542-88-1	Bis(chloromethyl) ether	0.00003
75-25-2	Bromoform	1.0
106-99-0	1,3-Butadiene	0.007
156-62-7	Calcium cyanamide	1.0

CAS NUMBER	CHEMICAL NAME	Relative Toxicity
133-06-2	Captan	1.0
63-25-2	Carbaryl	1.0
75-15-0	Carbon disulfide	0.10
56-23-5	Carbon tetrachloride	0.10
463-58-1	Carbonyl sulfide	0.50
120-80-9	Catechol	0.50
133-90-4	Chloramben	0.10
57-74-9	Chlordane	0.001
7782-50-5	Chlorine	Acute
79-11-8	Chloroacetic acid	Acute/Special
532-27-4	2-Chloroacetophenone	0.006
108-90-7	Chlorobenzene	1.0
510-15-6	Chlorobenzilate	0.04
67-66-3	Chloroform	0.09
107-30-2	Chloromethyl methyl ether	Acute
126-99-8	Chloroprene	0.10
1319-77-3	Cresols/Cresylic acid (mixed isomers)	0.10
95-48-7	o-Cresol	0.10
108-39-4	m-Cresol	0.10
106-44-5	p-Cresol	0.10
98-82-8	Cumene	1.0
94-75-7	2,4-D (2,4-Dichlorophenoxyacetic Acid) (including salts and esters)	1.0
2-55-9	DDE (1,1-dichloro-2,2-bis(p-chlorophenyl) ethylene)	0.001
334-88-3	Diazomethane	0.10
132-64-9	Dibenzofuran	0.50
96-12-8	1,2-Dibromo-3-chloropropane	0.001

CAS NUMBER	CHEMICAL NAME	Relative Toxicity
84-74-2	Dibutyl phthalate	1.0
106-46-7	1,4-Dichlorobenzene	0.30
91-94-1	3,3'-Dichlorobenzidene	0.02
111-44-4	Dichloroethyl ether (Bis[2-chloroethyl]ether)	0.006
542-75-6	1,3-Dichloropropene	0.10
62-73-7	Dichlorvos	0.02
111-42-2	Diethanolamine	0.50
121-69-7	N,N-Dimethylaniline	0.10
64-67-5	Diethyl sulfate	0.10
119-90-4	3,3'-Dimethoxybenzidine	0.01
60-11-7	4-Dimethylaminoazobenzene	0.10
119-93-7	3,3'-Dimethylbenzidine	0.0008
79-44-7	Dimethylcarbonyl chloride	0.002
68-12-2	N,N-Dimethylformamide	0.10
57-14-7	1,1-Dimethylhydrazine	0.0008
131-11-3	Dimethyl phthalate	1.0
77-78-1	Dimethyl sulfate	Acute
534-52-1	4,6-Dinitro-o-cresol (including salts)	Acute
51-28-5	2,4-Dinitrophenol	0.10
121-14-2	2,4-Dinitrotoluene	0.002
123-91-1	1,4-Dioxane (1,4-Diethyleneoxide)	0.60
122-66-7	1,2-Diphenylhydrazine	0.009
106-89-8	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	0.20
106-88-7	1,2-Epoxybutane	0.10
140-88-5	Ethyl acrylate	0.10
100-41-4	Ethylbenzene	1.0
51-79-6	Ethyl carbamate (Urethane)	0.08

CAS NUMBER	CHEMICAL NAME	Relative Toxicity
75-00-3	Ethyl chloride (Chloroethane)	1.0
106-93-4	Ethylene dibromide (Dibromoethane)	0.01
107-06-2	Ethylene dichloride (1,2-Dichloroethane)	0.08
107-21-1	Ethylene glycol	1.0
151-56-4	Ethyleneimine (Aziridine)	0.0003
75-21-8	Ethylene oxide	Acute
96-45-7	Ethylene thiourea	0.06
75-34-3	Ethylidene dichloride (1,1-Dichloroethane)	0.10
50-00-0	Formaldehyde	0.20
76-44-8	Heptachlor	0.002
118-74-1	Hexachlorobenzene	0.001
87-68-3	Hexachlorobutadine	0.09
77-47-4	Hexachlorocyclopentadiene	Acute
67-72-1	Hexachloroethane	0.50
822-06-0	Hexamethylene diisocyanate	0.002
680-31-9	Hexamethylphosphoramide	0.001
110-54-3	Hexane	1.0
302-01-2	Hydrazine	0.0004
7647-01-0	Hydrochloric acid (Hydrogen Chloride [gas only])	1.0
7664-39-3	Hydrogen fluoride (Hydrofluoric acid)	Acute
123-31-9	Hydroquinone	0.10
78-59-1	Isophorone	1.0
58-89-9	Lindane (1,2,3,4,5,6-Hexachlorocyclohexane [all stereo isomers])	0.001
108-31-6	Maleic anhydride	0.10
67-56-1	Methanol	1.0
72-43-5	Methoxychlor	1.0

CAS NUMBER	CHEMICAL NAME	Relative Toxicity
74-83-9	Methyl bromide (Bromomethane)	1.0
74-87-3	Methyl chloride (Chloromethane)	1.0
71-55-6	Methyl chloroform (1,1,1-Trichloroethane)	1.0
60-34-4	Methylhydrazine	0.006
74-88-4	Methyl iodide (Iodomethane)	0.10
108-10-1	Methyl isobutyl ketone (Hexone)	1.0
624-83-9	Methyl isocyanate	Acute
80-62-6	Methyl methacrylate	1.0
1634-04-4	Methyl tert-butyl ether	1.0
101-14-4	4,4'-Methylenebis(2-chloroaniline)	0.02
75-09-2	Methylene chloride (Dichloromethane)	1.0
101-68-8	4,4'-Methylenediphenyl diisocyanate (MDI)	0.01
101-77-9	4,4'-Methylenedianiline	0.10
91-20-3	Naphthalene	1.0
98-95-3	Nitrobenzene	0.10
92-93-3	4-Nitrobiphenyl	0.10
100-02-7	4-Nitrophenol	0.50
79-46-9	2-Nitropropane	0.10
684-93-5	N-Nitroso-N-methylurea	0.00002
62-75-9	N-Nitrosodimethylamine	0.00001
59-89-2	N-Nitrosomorpholine	0.10
56-38-2	Parathion	Acute
82-68-8	Pentachloronitrobenzene (Quintobenzene)	0.03
87-86-5	Pentachlorophenol	0.07
108-95-2	Phenol	0.01
106-50-3	p-Phenylenediamine	1.0
75-44-5	Phosgene	Acute

CAS NUMBER	CHEMICAL NAME	Relative Toxicity
7803-51-2	Phosphine	0.50
7723-14-0	Phosphorus	Acute
85-44-9	Phthalic anhydride	0.50
1336-36-3	Polychlorinated biphenyls (Aroclors)	0.0009
1120-71-4	1,3-Propane sultone	0.003
57-57-8	beta-Propiolactone	Acute
123-38-6	Propionaldehyde	0.50
114-26-1	Propoxur (Baygon)	1.0
78-87-5	Propylene dichloride (1,2-Dichloropropane)	0.10
75-56-9	Propylene oxide	0.50
75-55-8	1,2-Propylenimine (2-Methylaziridine)	0.0003
91-22-5	Quinoline	0.0006
106-51-4	Quinone (p-Benzoquinone)	0.50
100-42-5	Styrene	0.10
96-09-3	Styrene oxide	0.10
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	Special
79-34-5	1,1,2,2-Tetrachloroethane	0.03
127-18-4	Tetrachloroethylene (Perchloroethylene)	1.0
7550-45-0	Titanium tetrachloride	Acute
108-88-3	Toluene	1.0
95-80-7	Toluene-2,4-diaminic	0.002
584-84-9	2,4-Toluene diisocyanate	Acute
95-53-4	o-Toluidine	0.40
8001-35-2	Toxaphene (chlorinated camphene)	0.001
120-82-1	1,2,4-Trichlorobenzene	1.0
79-00-5	1,1,2-Trichloroethane	0.10
79-01-6	Trichloroethylene	1.0

CAS NUMBER	CHEMICAL NAME	Relative Toxicity
95-95-4	2,4,5-Trichlorophenol	0.10
88-06-2	2,4,6-Trichlorophenol	0.60
121-44-8	Triethylamine	1.0
1582-09-8	Trifluralin	0.90
540-84-1	2,2,4-Trimethylpentane	0.50
108-05-4	Vinyl acetate	0.10
593-60-2	Vinyl bromide	0.06
75-01-4	Vinyl chloride	0.02
75-35-4	Vinylidene chloride (1,1-Dichloroethylene)	0.04
1330-20-7	Xylene (mixed isomers)	1.0
95-47-6	o-Xylene	1.0
108-38-3	m-Xylene	1.0
106-42-3	p-Xylene	1.0
0	Antimony Compounds <sup>1</sup>	*
0	Arsenic Compounds (inorganic including arsine) <sup>1</sup>	*
0	Beryllium Compounds <sup>1</sup>	*
0	Cadmium Compounds <sup>1</sup>	*
0	Chromium Compounds <sup>1</sup>	*
0	Cobalt Compounds <sup>1</sup>	*
0	Coke Oven Emissions	0.003
0	Cyanide Compounds <sup>1</sup>	*
0	Glycol Ethers <sup>1,3</sup>	*
0	Lead Compounds <sup>1</sup>	*
0	Manganese Compounds <sup>1</sup>	*
0	Mercury Compounds <sup>1</sup>	*
0	Fine mineral fibers <sup>1</sup>	Special
0	Nickel Compounds <sup>1</sup>	*

CAS NUMBER	CHEMICAL NAME	Relative Toxicity
0	Polycyclic Organic Matter <sup>1</sup>	*
0	Radionuclides (including radon) <sup>1</sup>	Special
0	Selenium Compounds <sup>1</sup>	*

NOTE: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e. antimony, arsenic, etc.) as part of that chemical's infrastructure.

<sup>1</sup>X'CN where X'= H' or any other group where a formal dissociation may occur. For example KCN or Ca(CN)<sub>2</sub>.

<sup>2</sup>Includes mono- and diethers of ethylene glycol, diethylene glycol and triethylene glycol R-(OCH<sub>2</sub>CH)<sub>n</sub>-OR' where

n = 1, 2, or 3

R = alkyl C7 or less; or

R = phenyl or alkyl substituted phenyl;

R= = H or alkyl C7 or less; or

OR= consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

<sup>3</sup>Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) having a fiber diameter less than 3.5 μm and possessing an aspect ratio (fiber length divided by fiber diameter) greater than 3.

<sup>4</sup>Includes substituted and/or unsubstituted polycyclic aromatic hydrocarbons and aromatic heterocyclic compounds, with two or more fused rings, at least one of which is benzoid (i.e., containing six carbon atoms and is aromatic) in structure. Polycyclic Organic Matter is a mixture of organic compounds containing one or more of these polycyclic aromatic chemicals that include dioxins and furans. Polycyclic Organic Matter is generally formed or emitted during thermal processes including (1) incomplete combustion, (2) pyrolysis, (3) the volatilization, distillation, or processing of fossil fuels or bitumens, or (4) the distillation or thermal processing of non-fossil fuels. The Administrator may delineate, by test method, what is included in polycyclic organic matter.

<sup>5</sup>A type of atom that spontaneously undergoes radioactive decay.

\*See Table 2 for compound specific relative toxicity.

## Glycol Ethers

On November 21, 2003 (68FR65648), the EPA proposed to remove the compound ethylene glycol monobutyl ether (EGBE) (2-Butoxyethanol) (Chemical Abstract Service (CAS) No. 111-76-2) from the group of glycol ethers. On November 29, 2004 (69FR69320) this proposal was made final.

On January 12, 1999 (64FR1780), the EPA proposed to modify the definition of glycol ethers to exclude surfactant alcohol ethoxylates and their derivatives (SAED). On August 2, 2000 ([65FR47342](#)), the EPA published the final action. This action deletes each individual compound in a group called the surfactant alcohol ethoxylates and their derivatives (SAED) from the glycol ethers category in the list of hazardous air pollutants (HAP) established by section 112(b)(1) of the Clean Air Act (CAA). Under section 112(b)(3)(D) of the CAA, EPA may delete specific substances from certain listed categories, including glycol ethers. To implement this action, EPA is revising the definition of glycol ethers to exclude the deleted compounds.

## **APPENDIX B - Relative Toxicity Ratings**

### Relative Toxicity Ratings

Below is a list of relative toxicity ratings for compounds that were not originally included in the Regulation #26 permit application. The relative toxicity may be use for HAPs swapping and as a de minimis level for reporting in permit application. Table 3 contains de minimis levels for acute and special compounds that do not lend themselves to a relative toxicity rating.

CAS #	Chemical Name	Relative Toxicity
-	Arsenic and inorganic arsenic compounds	0.0005
7784-42-1	Arsine	0.0005
-	Antimony compounds (except those specifically listed)	0.5
1309-64-4	Antimony trioxide	0.1
1345-04-6	Antimony trisulfide	0.01
7783-70-2	Antimony pentafluoride	Acute
28300-74-5	Antimony potassium tartrate	0.1
-	Beryllium compounds (except Beryllium salts)	0.0008
-	Beryllium salts	0.000002
-	Cadmium compounds	0.001
1306-19-0	Cadmium oxide	0.001
-	Chromium compounds (except Hexavalent and Trivalent)	0.5
-	Hexavalent Chromium compounds	0.0002
-	Trivalent Chromium compounds	0.5
10025-73-7	Chromic chloride	Acute
7440-48-4	Cobalt metal and compounds (except those specifically listed)*	0.01
10210-68-1	Cobalt carbonyl	Acute
-	Fluomine	Acute
-	Coke oven emissions	0.003
-	Cyanide compounds (except those specifically listed)*	0.5
143-33-9	Sodium cyanide	Acute
151-50-8	Potassium cyanide	Acute
-	Glycol ethers (except those specifically listed)*	0.5
110-80-5	2-Ethoxyethanol	1.0
111-76-2	Ethylene glycol monobutyl ether	1.0
109-86-4	2-Methoxyethanol	1.0

CAS #	Chemical Name	Relative Toxicity
-	Lead and compounds (except those specifically listed)	0.001
	Tetramethyl lead	0.001
78-00-2	Tetraethyl lead	0.001
7439-96-5	Manganese and compounds (except those specifically listed)*	0.08
	Methylcyclopentadienyl manganese	Acute
-	Mercury compounds (except those specifically listed)*	0.001
10045-94-0	Mercuric nitrate	0.001
7487-94-7	Mercuric chloride	0.001
62-38-4	Phenylmercuric acetate	0.001
-	Elemental Mercury	0.001
-	Mineral fiber compounds (except those specifically listed)*	Special
-	Asbestos	Special
-	Erionite	Special
-	Silica (crystalline)	Special
-	Talc (containing asbestos form fibers)	Special
-	Glass wool	Special
-	Rock wool	Special
-	Slag wool	Special
-	Ceramic fibers	Special
-	Nickel compounds (except those specifically listed)*	0.1
13463-39-3	Nickel Carbonyl	Acute
12035722	Nickel refinery dust	0.008
-	Nickel subsulfide	0.004
-	Polycyclic organic matter-POM (except those specifically listed)*	0.001
56-55-3	Benz(a)anthracene	0.001
50-32-8	Benzo(a)pyrene	0.001
-	Benzo(b)fluoranthene	0.001
57-97-6	7,12 - Dimethylbenz(a)anthracene	0.001
-	Benz(c)acridine	0.001
218-01-9	Chrysene	0.001

CAS #	Chemical Name	Relative Toxicity
53-70-3	Dibenz(ah)anthracene	0.001
-	1,2:7,8-Dibenzopyrene	0.001
-	Indeno(1,2,3-cd)pyrene	0.001
-	Dioxins & Furans (TCDD equivalent)	Special
7782-49-2	Selenium and compounds (except those specifically listed)*	0.01
-	Selenium sulfide (mono and di)	0.01
7783-07-5	Hydrogen selenide	Acute
10102-18-8	Sodium selenite	Acute
13410-01-0	Sodium selenate	Acute
-	Radionuclides (including radon)	Special

Acute - Sources marked “acute” are acute toxins and present concerns from short term exposure. These chemicals do not lend themselves to a relative toxicity rating. For a De Minimis reporting level, see Table 2.

Special- Currently available data do not support assignment of a “trivial” emission rate; therefore, the value assigned will be determined on a source specific basis.

**APPENDIX 3 - De Minimis Levels for Acute Toxicity Compounds**

### De Minimis Levels for Acute Toxicity Compounds

CAS #	Chemical Name	De Minimis (tpy)
100-44-7	Benzyl chloride	0.01
7782-50-5	Chlorine	0.01
79-11-8	Chloroacetic acid	0.01
107-30-2	Chloromethyl methyl ether	0.01
77-78-1	Dimethyl sulfate	0.01
534-52-1	4,6-Dinitro-o-cresol (including salts)	0.01
75-21-8	Ethylene Oxide	0.01
77-47-4	Hexachlorocyclopentadiene	0.01
7647-01-0	Hydrogen fluoride (Hydrofluoric acid)	0.01
624-83-9	Methyl isocyanate	0.01
56-38-2	Parathion	0.01
75-44-5	Phosgene	0.01
7723-14-0	Phosphorus	0.01
57-57-8	beta-Propiolactone	0.01
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	6E-8
7550-45-0	Titanium tetrachloride	0.01
584-84-9	2,4-Toluene diisocyanates	0.01
7783-70-2	Antimony pentafluoride	0.01
10025-73-7	Chromic chloride	0.01
10210-68-1	Cobalt carbonyl	0.01
-	Fluomine	0.01
143-33-9	Sodium cyanide	0.01
151-50-8	Potassium cyanide	0.01
-	Methylcyclopentadienyl manganese	0.01
-	Mineral fiber compounds (except those specifically listed)*	a
-	Asbestos	a
-	Erionite	a
-	Silica (crystalline)	a
-	Talc (containing asbestos form fibers)	a
-	Glass wool	a

CAS #	Chemical Name	De Minimis (tpy)
-	Rock wool	a
-	Slag wool	a
-	Ceramic fibers	a
13463-39-3	Nickel Carbonyl	0.01
7783-07-5	Hydrogen selenide	0.01
10102-18-8	Sodium selenite	0.01
13410-01-0	Sodium selenate	0.01

<sup>a</sup> Currently available data do not support assignment of a "trivial" emission rate; therefore, the value assigned will be determined on a source specific basis.

**APPENDIX 4 - LIST OF NON-VOC HYDROCARBONS**

## LIST OF NON-VOC HYDROCARBONS

“Volatile organic compounds” or “VOC” means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions.

This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity:

acetone;  
methane;  
ethane;  
methylene chloride (dichloromethane);  
1,1,1- trichloroethane (methyl chloroform);  
tetrachloroethylene (perchloroethylene);  
1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);  
trichlorofluoromethane (CFC-11);  
dichlorodifluoromethane (CFC-12);  
chlorodifluoromethane (HCFC-22);  
trifluoromethane (HFC-23);  
1,2-dichloro 1,1, 2, 2-tetrafluoroethane (CFC-114);  
chloropentafluoroethane (CFC-115);  
1,1,1-trifluoro 2,2-dichloroethane (HCFC-123);  
1,1,1,2-tetrafluoroethane (HFC-134a);  
1,1-dichloro 1-fluoroethane (HCFC-141b);  
1-chloro 1,1-difluoroethane (HCFC-142b);  
2-7  
2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);  
pentafluoroethane (HFC-125);  
1,1,2,2-tetrafluoroethane (HFC-134);  
1,1,1-trifluoroethane (HFC-143a);  
1,1-difluoroethane (HFC-152a);  
parachlorobenzotrifluoride (PCBTF);  
cyclic, branched, or linear completely methylated siloxanes;  
3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca);  
1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);  
1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee);  
difluoromethane (HFC-32);  
ethylfluoride (HFC-161);  
1,1,1,3,3,3-hexafluoropropane (HFC-236fa);  
1,1,2,2,3-pentafluoropropane (HFC-245ca);  
1,1,2,3,3-pentafluoropropane (HFC 245ea);  
1,1,1,2,3-pentafluoropropane (HFC-245eb);  
1,1,1,3,3-pentafluoropropane (HFC-245fa);  
1,1,1,2,3,3-hexafluoropropane (HFC-236ea);  
1,1,1,3,3-pentafluorobutane (HFC-365mfc);  
chlorofluoromethane (HCFC-31);  
1 chloro-1-fluoroethane (HCFC-151a);  
1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);  
1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C<sub>4</sub>F<sub>9</sub>OCH<sub>3</sub> or HFE-7100);  
2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane  
(CF<sub>3</sub>)<sub>2</sub>CFCF<sub>2</sub>OCH<sub>3</sub>);

1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C<sub>4</sub>F<sub>9</sub>OC<sub>2</sub>H<sub>5</sub> or HFE 7200);  
2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane  
((CF<sub>3</sub>)<sub>2</sub>CFCF<sub>2</sub>OC<sub>2</sub>H<sub>5</sub>);  
methyl acetate;  
1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C<sub>3</sub>F<sub>7</sub>OCH<sub>3</sub> or HFE-7000);  
3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane  
(HFE-7500)  
1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea);  
methyl formate (HCOOCH<sub>3</sub>)  
1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE-7300);  
and perfluorocarbon compounds which fall into these classes:

(1) cyclic, branched, or linear, completely fluorinated alkanes;

(2) cyclic, branched, or linear, completely fluorinated ethers with no  
unsaturations;

2-8

(3) cyclic, branched, or linear, completely fluorinated tertiary amines with no  
unsaturations; and

(4) sulfur containing perfluorocarbons with no saturations and with sulfur bonds only to carbon and  
fluorine.

**APPENDIX 5 - AIR PERMIT FEES**

**Fee regulations for air permits can be found in Regulation 9, Chapter 5. Regulations can be found on the ADEQ website [www.adeg.state.ar.us](http://www.adeg.state.ar.us)**

APPENDIX 6 – INSIGNIFICANT ACTIVITIES

## INSIGNIFICANT ACTIVITIES LIST

The following types of activities or emissions are deemed insignificant on the basis of size, emission rate, production rate, or activity. Certain of these listed activities include qualifying statements intended to exclude many similar activities. By such listing, the Department exempts certain sources or types of sources from the requirements to obtain a permit or plan under this regulation. Listing in this part has no effect on any other law to which the activity may be subject. Any activity for which a state or federal applicable requirement applies (such as NSPS, NESHAP, or MACT) is not insignificant, even if this activity meets the criteria below.

### Group A

The following emission units, operations, or activities must either be listed as insignificant or included in the permit application as sources to be permitted. The listing of insignificant sources does not necessarily mean that the emissions from these sources must be quantified.

1. Fuel burning equipment with a design rate less than 10 million BTU per hour, provided that the aggregate pollutant specific emissions from all such units listed as insignificant do not exceed 5 tons per year (tpy) of any combination of HAPs and 10 tpy of any other pollutant.
2. Storage tanks less than or equal to 250 gallons storing organic liquids having a true vapor pressure less than or equal to 3.5 psia, provided that the aggregate pollutant specific emissions from all such liquid storage tanks listed as insignificant do not exceed 5 tpy of any combination of HAPs and 10 tpy of any other pollutant.
3. Storage tanks less than or equal to 10,000 gallons storing organic liquids having a true vapor pressure less than or equal to 0.5 psia, provided that the aggregate pollutant specific emissions from all such liquid storage tanks listed as insignificant do not exceed 5 tpy of any combination of HAPs and 10 tpy of any other pollutant.
4. Caustic storage tanks that contain no VOCs.
5. Emissions from laboratory equipment/vents used exclusively for routine chemical or physical analysis for quality control or environmental monitoring purposes provided that the aggregate pollutant specific emissions from all such equipment/vents considered insignificant do not exceed 5 tpy of any combination of HAPs and 10 tpy of any other pollutant.
6. Non commercial water washing operations of empty drums less than or equal to 55 gallons with less than three percent of the maximum container volume of material.
7. Welding or cutting equipment related to manufacturing activities that do not result in aggregate emissions of HAPs in excess of 0.1 tpy.
8. Containers of less than or equal to 5 gallons in capacity that do not emit any detectable VOCs or HAPs when closed. This includes filling, blending, or mixing of the contents of such containers by a retailer.
9. Equipment used for surface coating, painting, dipping, or spraying operations, provided the material used contains no more than 0.4 lb/gal VOCs, no hexavalent chromium, and no more than 0.1 tpy of all other HAPs.
10. Non-production equipment approved by the Department, used for waste treatability studies or other pollution prevention programs provided that the emissions are less than 10 tpy of any pollutant regulated under this regulation or less than 2 tpy of a single HAP or 5 tpy of any combination of HAPs.<sup>1</sup>
11. Operation of groundwater remediation wells, including emissions from the pumps and collection activities provided that the emissions are less than 10 tpy of any pollutant regulated under this

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<sup>1</sup> The treatability study or pollution prevention program must be approved separately. The activity creating the emissions must also be determined to be insignificant as discussed in the introduction to this group.

regulation or less than 2 tpy of a single HAP or 5 tpy of any combination of HAPs. This does not include emissions from air-stripping or storage.

12. Emergency use generators, boilers, or other fuel burning equipment that is of equal or smaller capacity than the primary operating unit, cannot be used in conjunction with the primary operating unit, and does not emit or have the potential to emit regulated air pollutants in excess of the primary operating unit and not operated more than 90 days a year.
13. Other activities for which the facility demonstrates that no enforceable permit conditions are necessary to insure compliance with any applicable law or regulation provided that the emissions are less than 5 tpy of any pollutant regulated under this regulation or less than 1 tpy of a single HAP or 2.5 tpy of any combination of HAPs. These emission limits apply to the sum of all activities listed under this group.

### **Group B**

The following emission units, operations, or activities need not be included in a permit application:

1. Combustion emissions from propulsion of mobile sources and emissions from refueling these sources unless regulated by Title II and required to obtain a permit under Title V of the federal Clean Air Act, as amended. This does not include emissions from any transportable units, such as temporary compressors or boilers. This does not include emissions from loading racks or fueling operations covered under any applicable federal requirements.
2. Air conditioning and heating units used for comfort that do not have applicable requirements under Title VI of the Act.
3. Ventilating units used for human comfort that do not exhaust air pollutants into the ambient air from any manufacturing/industrial or commercial process.
4. Non-commercial food preparation or food preparation at restaurants, cafeterias, or caterers, etc.
5. Consumer use of office equipment and products, not including commercial printers or business primarily involved in photographic reproduction.
6. Janitorial services and consumer use of janitorial products.
7. Internal combustion engines used for landscaping purposes.
8. Laundry activities, except for dry-cleaning and steam boilers.
9. Bathroom/toilet emissions.
10. Emergency (backup) electrical generators at residential locations.
11. Tobacco smoking rooms and areas.
12. Blacksmith forges.
13. Maintenance of grounds or buildings, including: lawn care, weed control, pest control, and water washing activities.
14. Repair, up-keep, maintenance, or construction activities not related to the sources' primary business activity, and not otherwise triggering a permit modification. This may include, but is not limited to such activities as general repairs, cleaning, painting, welding, woodworking, plumbing, re-tarring roofs, installing insulation, paved/paving parking lots, miscellaneous solvent use, application of refractory, or insulation, brazing, soldering, the use of adhesives, grinding, and cutting. 2

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2 Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must get a permit.

15. Surface-coating equipment during miscellaneous maintenance and construction activities. This activity specifically does not include any facility whose primary business activity is surface-coating or includes surface-coating or products.
16. Portable electrical generators that can be “moved by hand” from one location to another.<sup>3</sup>
17. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning, or machining wood, metal, or plastic.
18. Brazing or soldering equipment related to manufacturing activities that do not result in emission of HAPs.<sup>4</sup>
19. Air compressors and pneumatically operated equipment, including hand tools.
20. Batteries and battery charging stations, except at battery manufacturing plants.
21. Storage tanks, vessels, and containers holding or storing liquid substances that do not contain any VOCs or HAPs.<sup>5</sup>
22. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and no volatile aqueous salt solutions, provided appropriate lids and covers are used and appropriate odor control is achieved.
23. Equipment used to mix and package soaps, vegetable oil, grease, animal fat, and non-volatile aqueous salt solutions, provided appropriate lids and covers are used and appropriate odor control is achieved.
24. Drop hammers or presses for forging or metalworking.
25. Equipment used exclusively to slaughter animals, but not including other equipment at slaughter-houses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
26. Vents from continuous emissions monitors and other analyzers.
27. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
28. Hand-held applicator equipment for hot melt adhesives with no VOCs in the adhesive.
29. Lasers used only on metals and other materials which do not emit HAPs in the process.
30. Consumer use of paper trimmers/binders.
31. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
32. Salt baths using non-volatile salts that do not result in emissions of any air pollutant covered by this regulation.
33. Laser trimmers using dust collection to prevent fugitive emissions.
34. Bench-scale laboratory equipment used for physical or chemical analysis not including lab fume hoods or vents.

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<sup>3</sup> "Moved by hand" means that it can be moved by one person without assistance of any motorized or non-motorized vehicle, conveyance, or device.

<sup>4</sup> Brazing, soldering, and welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals are more appropriate for treatment as insignificant activities based on size or production thresholds. Brazing, soldering, and welding equipment, and cutting torches related directly to plant maintenance and upkeep and repair or maintenance shop activities that emit HAP metals are treated as trivial and listed separately in this appendix.

<sup>5</sup> Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids are based on size and limits including storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.

35. Routine calibration and maintenance of laboratory equipment or other analytical instruments.
36. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
37. Hydraulic and hydrostatic testing equipment.
38. Environmental chambers not using hazardous air pollutant gases.
39. Shock chambers, humidity chambers, and solar simulators.
40. Fugitive emissions related to movement of passenger vehicles, provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
41. Process water filtration systems and demineralizers.
42. Demineralized water tanks and demineralizer vents.
43. Boiler water treatment operations, not including cooling towers.
44. Emissions from storage or use of water treatment chemicals, except for hazardous air pollutants or pollutants listed under regulations promulgated pursuant to Section 112(r) of the Act, for use in cooling towers, drinking water systems, and boiler water/feed systems.
45. Oxygen scavenging (de-aeration) of water.
46. Ozone generators.
47. Fire suppression systems.
48. Emergency road flares.
49. Steam vents and safety relief valves.
50. Steam leaks.
51. Steam cleaning operations.
52. Steam and microwave sterilizers.
53. Site assessment work to characterize waste disposal or remediation sites.
54. Miscellaneous additions or upgrades of instrumentation.
55. 55. Emissions from combustion controllers or combustion shutoff devices but not combustion units itself.
56. Use of products for the purpose of maintaining motor vehicles operated by the facility, not including air cleaning units of such vehicles (i.e. antifreeze, fuel additives).
57. Stacks or vents to prevent escape of sanitary sewer gases through the plumbing traps.
58. Emissions from equipment lubricating systems (i.e. oil mist), not including storage tanks, unless otherwise exempt.
59. Residential wood heaters, cookstoves, or fireplaces.
60. Barbecue equipment or outdoor fireplaces used in connection with any residence or recreation.
61. Log wetting areas and log flumes.
62. Periodic use of pressurized air for cleanup.
63. Solid waste dumpsters.
64. Emissions of wet lime from lime mud tanks, lime mud washers, lime mud piles, lime mud filter and filtrate tanks, and lime mud slurry tanks.
65. Natural gas odoring activities unless the Department determines that emissions constitute air pollution.

66. Emissions from engine crankcase vents.
67. Storage tanks used for the temporary containment of materials resulting from an emergency reporting to an unanticipated release.
68. Equipment used exclusively to mill or grind coatings in roll grinding rebuilding, and molding compounds where all materials charged are in paste form.
69. Mixers, blenders, roll mills, or calendars for rubber or plastic for which no materials in powder form are added and in which no organic solvents, diluents, or thinners are used.
70. The storage, handling, and handling equipment for bark and wood residues not subject to fugitive dispersion offsite (this applies to the equipment only).
71. Maintenance dredging of pulp and paper mill surface impoundments and ditches containing cellulosic and cellulosic derived biosolids and inorganic materials such as lime, ash, or sand.
72. Tall oil soap storage, skimming, and loading.
73. Water heaters used strictly for domestic (non-process) purposes.
74. Facility roads and parking areas, unless necessary to control offsite fugitive emissions.
75. Agricultural operations, including onsite grain storage, not including IC engines or grain elevators.
76. The following natural gas and oil exploration production site equipment: separators, dehydration units, natural gas fired compressors, and pumping units. This does not include compressors located on natural gas transmission pipelines.