Potential To Emit Calculator for Concrete Batch Plants

7/1/2016

This spreadsheet helps estimate a facility's potential to emit. It is provided for the convenience of the permitted community. Emission factor sources are subject to revision or correction. It is the permittee's responsibility to determine their emissions. The permittee should consult with the reviewing authority to determine the appropriateness of this calculator for its source.

If you have one or more of the following units that are exempt from the Indian Country Minor NSR Program, please contact your EPA Regional office before you use this calculator to determine whether you need to obtain a minor NSR permit: Internal combustion engines used for landscaping purposes; Emergency generators, designed solely for the purpose of providing electrical power during power outages; in nonattainment areas classified as Serious or lower, the total maximum manufacturer's site-rated hp of all units shall be below 500; in attainment areas, the total maximum manufacturer's site-rated hp of all units shall be below 1,000; Stationary internal combustion engines with a manufacturer's site-rated hp of less than 5; and Furnaces or boilers used for space heating that use only gaseous fuel, with a total maximum heat input (i.e., from all units combined) of in nonattainment areas classified as Serious or lower, 5 MMBtu/hr or less; in nonattainment areas classified as Severe or Extreme, 2 MMBtu/hr or less; and in attainment areas, 10 MMBtu/hr or less.

Directions: Enter the facility's information below in the cells with **red text**.
Write the letter "Y" or "N" next to each fuel type to indicate that the facility does or does not burn that type of fuel.

Enter the maximum capacity information for the equipment at your concrete batch mix operation (lines 14 - 24)
OR
Enter the maximum number of yards of concrete your plant can deliver (maximum production capacity) in one year (line 26).

If you operate multiple facilities of the same type (more than one aggregate conveyor, more than one generator), enter the total rated capacity.

The potential emissions of criteria pollutants and hazardous air pollutants for the facility will be displayed under the "Output" tab.

This calculator does not calculate non-emergency engines. Contact your reviewing authority if you use non-emergency engines to power your operations.

If the throughput capacity of a piece of equipment limits (or bottlenecks) the maximum throughput of other equipment, then input the bottlenecked capacity of that other equipment, but only if it impacts output of product.

Facility Profile

Plant Equipment Maximum Throughput Capacity	**Amount**	**Units**	
Railcar/Barge/Truck Sand Unloading		tons/hr	Total
Railcar/Barge/Truck Aggregate Unloading		tons/hr	Total
Cement - Unloading to Elevated Storage		tons/hr	Total
Cement Supplement - Unloading to Elevated Storage		tons/hr	Total
Sand - Transfer to Conveyor		tons/hr	Total
Aggregate - Transfer to Conveyor	600	tons/hr	Total
Sand - Transfer to Elevated Storage		tons/hr	Total
Aggregate - Transfer to Elevated Storage		tons/hr	Total
Weigh Hopper Loading (Sand and Aggregate Only)	600	tons/hr	Total
Mixer Loading (Cement and Cement Supplement Only)	60	tons/hr	Total
Transit Mix Truck Loading (Cement and Cement Supp. Only)		tons/hr	Total

ERROR: Input

Plant Maximum Production Capacity	8200	Yards Mix/yr

Is the Dry Mix and Water Mixed Prior to Loading (Mixer Loading) or After Loading (Truck Loading)? [Choose One]	**Mixer Loading**

Engines and Heaters		units				
Natural Gas-fired Auxiliary Heater(s) Capacity -		MMBtu/hr	Total			
Propane-fired Auxiliary Heater(s) Capacity -		MMBtu/hr	Total	Fuel Sulfur %	0.0015	Default = 0.0015
Distillate/Diesel-fired Auxiliary Heater(s) Capacity -		MMBtu/hr	Total	Fuel Sulfur %	0.0015	Default = 0.0015
Diesel-fired Non-Emergency Engine(s) Size -	230	hp	Total	Fuel Sulfur %	0.0015	Default = 0.0015
Diesel-fired Emergency Generator(s) Size -		hp	Total	Fuel Sulfur %	0.0015	Default = 0.0015
Natural Gas/Propane-fired Emergency Generator(s) Size -		hp	Total	Fuel Sulfur %	0.0015	Default = 0.0015
Gasoline-fired Emergency Generator(s) Size -		hp	Total	Fuel Sulfur %	0.0015	Default = 0.0015

MMBtu = million British thermal units
hp = horsepower

Site Parameters units

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Summary - Total Potential to Emit									
tons/yr									
	Pollutant								
Process	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	VOC	Single HAP	Total HAPs
Materials Handling and Loading	35.58	17.48	2.27	-	-	-	-	-	-
Auxiliary Heater(s)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00
Non-Emergency Engines	2.22	2.22	2.22	2.07	31.23	6.73	2.49		0.03
Emergency Generators*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.0000
Vehicle Traffic	0.00	0.00							
Storage Piles	0.0004	0.0002							
Solvent Degreasing							0.00		0.0000
Controlled Emissions (ton/yr)	**37.80**	**19.69**	**4.49**	**2.07**	**31.23**	**6.73**	**2.49**	**0.00**	**0.027**

Note: Emissions from vehicle traffic and storage piles are considered fugitive emissions and are not counted towards PTE, as concrete batching is not one of the 28 listed source categories.

Potential To Emit Calculator for Concrete Batch Plants

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Controlled Emissions from Concrete Batch Mix Materials Handling - Criteria Pollutants

Purple values are pulled from other worksheet
Blue values are results

Calculation Methodology

Plant Equipment Maximum Throughput Capacity	Throughput		Emission Factor (lb/ton)			Potential to Emit		
Materials Handling Process	tons/hr	Controlled?	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Railcar/Barge/Truck Sand Unloading	0	y	0.0021	0.00099	0.0001287	0.00	0.00	0.00
Railcar/Barge/Truck Aggregate Unloading	0	y	0.0069	0.0033	0.000429	0.00	0.00	0.00
Cement - Unloading to Elevated Storage	0	y	0.00099	0.00034	0.0000442	0.00	0.00	0.00
Cement Supplement - Unloading to Elevated Storage	0	y	0.0089	0.0049	0.000637	0.00	0.00	0.00
Sand - Transfer to Conveyor	0	y	0.0021	0.00099	0.0001287	0.00	0.00	0.00
Aggregate - Transfer to Conveyor	600	0	0.0069	0.0033	0.000429	18.13	8.67	1.13
Sand - Transfer to Elevated Storage	0	y	0.0021	0.00099	0.0001287	0.00	0.00	0.00
Aggregate - Transfer to Elevated Storage	0	y	0.0069	0.0033	0.000429	0.00	0.00	0.00
Weigh Hopper Loading	600	y	0.0048	0.0028	0.000364	12.61	7.36	0.96
Mixer Loading	60	y	0.0184	0.0055	0.000715	4.84	1.45	0.19
Truck Loading	0	y	0.098	0.0263	0.003419	0.00	0.00	0.00
OR								
	Yards Mix/yr		Emission Factor (lb/yard)			Potential to Emit		
Plant Maximum Production Capacity	8200	Controlled?	PM	PM_{10}	$PM_{2.5}$	PM	PM_{10}	$PM_{2.5}$
Railcar/Barge/Truck Sand Unloading	8200	y	0.0015	0.0007	0.000091	0.01	0.00	0.00
Railcar/Barge/Truck Aggregate Unloading	8200	y	0.0064	0.0031	0.000403	0.03	0.01	0.00
Cement - Unloading to Elevated Storage	8200	y	0.0002	0.0001	0.000013	0.00	0.00	0.00
Cement Supplement - Unloading to Elevated Storage	8200	y	0.0003	0.0002	0.000026	0.00	0.00	0.00
Sand - Transfer to Conveyor	8200	y	0.0015	0.0007	0.000091	0.01	0.00	0.00
Aggregate - Transfer to Conveyor	8200	0	0.0064	0.0031	0.000403	0.03	0.01	0.00
Sand - Transfer to Elevated Storage	8200	y	0.00015	0.00007	0.0000091	0.00	0.00	0.00
Aggregate - Transfer to Elevated Storage	8200	y	0.00064	0.00031	0.0000403	0.00	0.00	0.00
Weigh Hopper Loading	8200	y	0.00079	0.00038	0.0000494	0.00	0.00	0.00
Mixer Loading	8200	y	0.0051888	0.001551	0.0002016	0.02	0.01	0.00
Truck Loading	8200	y	0.027636	0.0074166	0.0009642	0.1	0.0	0.0
PTE (ton/yr)						**35.58**	**17.48**	**2.27**

Note:

Assume that transfer of sand and aggregate to elevated storage and weigh hopper loading has a capture/control efficiency of 90%.

Emission factors are from AP-42, Chapter 11.12, Concrete Batching, Tables 11.12-2, 11.12-3, 11.12-4, and 11.12-6. (June 2006)

PM 2.5 emission factors are from AP-42, Chapter 11.12, Concrete Batching, Background Document, Table 17.1. (June 2006)

Assumes equipment is controlled, as required by GP

Methodology

PTE (ton/yr) = Throughput (tons/hr) x EF (lb/ton) x 8760 hr x 1 ton/2000 lb

PTE (ton/yr) = Yards mix/yr x EF (lb/yard) x 1 ton/2000 lb

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Emissions from Auxiliary Heaters - Criteria Pollutants and Hazardous Air Pollutants

Natural Gas-fired Auxiliary Heater(s) Capacity - 0 (MMBtu/hr)
Propane-fired Auxiliary Heater(s) Capacity - 0 (MMBtu/hr)
Distillate/Diesel-fired Auxiliary Heater(s) Capacity - 0 (MMBtu/hr)

Purple values are pulled from other worksheet
Blue values are results

Worst Case PTE (ton/yr)

PM	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	VOC	HAPs
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Fuel Type: **Natural Gas** Used

	Pollutant							
	PM	PM_{10}[2]	$PM_{2.5}$	SO_2	NO_X	CO	VOC	HAPs
Emission Factor[1] (lb/MMSCF)	7.6	7.6	7.6	0.6	100	84	5.5	1.89
PTE (ton/yr)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Note:
1. Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4 (updated 07/98).
2. Assumed PM and $PM_{2.5}$ emissions are equal to PM_{10} emissions.

Methodology
PTE (ton/yr) = Heat Input (MMBtu/hr) x 1 MMSCF/1,020 MMBtu x EF (lb/MMSCF) x 8760 hr/yr x 1 ton/2000 lb

Fuel Type: **Propane** Used Sulfur Content: 0.0015 %

	Pollutant							
	PM	PM_{10}[2]	$PM_{2.5}$	SO_2	NO_X	CO	VOC	HAPs
Emission Factor[1] (lbs/kgal)	0.7	0.7	0.7	0.00015	13	7.5	1.0	
PTE (ton/yr)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Note:
1. Emission factors are from AP-42, Chapter 1.5, Tables 1.5 (updated 07/08).
2. Assumed PM and $PM_{2.5}$ emissions are equal to PM_{10} emissions.

Methodology
PTE (ton/yr) = Heat Input (MMBtu/hr) x 1 kgal/91.5 MMBtu x EF (lb/kgal) x 8760 hr/yr x 1 ton/2000 lb

Fuel Type: **Liquid Fuel** Used Sulfur Content: 0.0015 %

	Pollutant							
	PM^2	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	VOC	HAPs
Emission Factor[1] (lb/kgal)	2.0	3.3	2.55	0.213	20	5.0	0.34	0.5537
PTE (ton/yr)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Note:
1. Emission factors are from AP-42, Chapter 1.3, Tables 1.3-1, 1.3-2, 1.3-3, 1.3-9, and 1.3-10 for Fuel Oil Combustion (updated 05/10).
2. Assume PM emissions are equal to PM10 emissions

Methodology
PTE (ton/yr) = Heat Input (MMBtu/hr) x 1 kgal/140 MMBtu x EF (lb/kgal) x 8760 hr/yr x 1 ton/2000 lb

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Emissions from Emergency Generator Engine - Criteria Pollutants and Hazardous Air Pollutants

Diesel-fired Emergency Generator Engine Size: 230 hp

Purple values are pulled from other worksheet
Blue values are results

Worst Case PTE (ton/yr)

PM	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	VOC	HAPs
2.22	**2.22**	**2.22**	**2.07**	**31.23**	**6.73**	**2.49**	**0.0267**

Engine Type: **Diesel Engine (<= 600 hp)** Used: Yes

	Pollutant							
	PM^2	PM_{10}	$PM_{2.5}{}^2$	SO_2	NO_X	CO	VOC^3	HAPs
Emission Factor[1] (lbs/hp-hr)	2.20E-03	2.20E-03	2.20E-03	2.05E-03	3.10E-02	6.68E-03	2.47E-03	2.65328E-05
PTE (ton/yr)	**2.22**	**2.22**	**2.22**	**2.07**	**31.23**	**6.73**	**2.49**	**0.0267**

Note:

1. Emission factors are from AP-42, Chapter 3.3, Tables 3.3-1 and 3.3-2 (updated 10/96).
2. Assume PM and $PM_{2.5}$ emissions are equal to PM_{10} emissions.
3. Assume TOC (total organic compounds) emissions equal to VOC emissions.
4. Assume 500 hours/yr of operation for an emergency engine

Methodology

PTE (ton/yr) = Engine Capacity (hp) x EF (lb/hp-hr) x 500 hr x 1 ton/2000 lb

Engine Type: **Diesel (> 600 hp)** Used: No Sulfur Content: 0.0015 %

	Pollutant							
	PM	PM_{10}	$PM_{2.5}{}^2$	SO_2	NO_X	CO	VOC^3	HAPs
Emission Factor[1] (lbs/hp-hr)	0.0007	0.0007	0.0007	1.21E-05	0.024	5.50E-03	7.05E-04	2.99739E-05
Limited PTE (ton/yr)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0000**

Note:

1. Emission factors are from AP-42, Chapter 3.4, Tables 3.4-1 and 3.4-2 for Large Stationary Diesel and Dual Fuel Engines (updated 10/96).
2. Assume $PM_{2.5}$ emissions are equal to PM_{10} emissions.
3. Assume TOC (total organic compounds) emissions equal to VOC emissions.
4. Assume 500 hours/yr of operation for an emergency engine

Methodology

PTE (ton/yr) = Engine Capacity (hp) x EF (lb/hp-hr) x 500 hr x 1 ton/2000 lb

Potential To Emit Calculator for Concrete Batch Plants

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Emissions from Emergency Generator Engine - Criteria Pollutants and Hazardous Air Pollutants

Diesel-fired Emergency Generator Engine Size: 0 hp

Gasoline-fired Emergency Generator Engine Size: 0 hp

Purple values are pulled from other worksheet

Blue values are results

Worst Case PTE (ton/yr)

PM	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	VOC	HAPs
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0000**

Engine Type: **Diesel Engine (<= 600 hp)** Used: Yes

	Pollutant							
	PM^2	PM_{10}	$PM_{2.5}{}^2$	SO_2	NO_X	CO	VOC^3	HAPs
Emission Factor[1] (lbs/hp-hr)	2.20E-03	2.20E-03	2.20E-03	2.05E-03	3.10E-02	6.68E-03	2.47E-03	2.65328E-05
PTE (ton/yr)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0000**

Note:

1. Emission factors are from AP-42, Chapter 3.3, Tables 3.3-1 and 3.3-2 (updated 10/96).
2. Assume PM and $PM_{2.5}$ emissions are equal to PM_{10} emissions.
3. Assume TOC (total organic compounds) emissions equal to VOC emissions.
4. Assume 500 hours/yr of operation for an emergency engine

Methodology

PTE (ton/yr) = Engine Capacity (hp) x EF (lb/hp-hr) x 500 hr x 1 ton/2000 lb

Engine Type: **Diesel (> 600 hp)** Used: No Sulfur Content: 0.0015 %

	Pollutant							
	PM	PM_{10}	$PM_{2.5}{}^2$	SO_2	NO_X	CO	VOC^3	HAPs
Emission Factor[1] (lbs/hp-hr)	0.0007	0.0007	0.0007	1.21E-05	0.024	5.50E-03	7.05E-04	2.99739E-05
Limited PTE (ton/yr)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.0000**

Note:

1. Emission factors are from AP-42, Chapter 3.4, Tables 3.4-1 and 3.4-2 for Large Stationary Diesel and Dual Fuel Engines (updated 10/96).
2. Assume $PM_{2.5}$ emissions are equal to PM_{10} emissions.
3. Assume TOC (total organic compounds) emissions equal to VOC emissions.
4. Assume 500 hours/yr of operation for an emergency engine

Methodology

PTE (ton/yr) = Engine Capacity (hp) x EF (lb/hp-hr) x 500 hr x 1 ton/2000 lb

Engine Type: **Gasoline** Used: No

	Pollutant						
	PM	PM_{10}	$PM_{2.5}{}^2$	SO_2	NO_X	CO	VOC^3
Emission Factor[1] (lbs/hp-hr)	7.21E-04	7.21E-04	7.21E-04	5.91E-04	0.011	6.96E-03	2.05E-02
Limited PTE (ton/yr)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Note:

1. Emission factors are from AP-42, Chapter 3.3, Table 3.3-1 for Uncontrolled gasoline and Diesel Industrial Engines (updated 10/96).
2. Assume PM and $PM_{2.5}$ emissions are equal to PM_{10} emissions.
3. Assume TOC (total organic compounds) emissions equal to VOC emissions.
4. Assume 500 hours/yr of operation for an emergency engine

Methodology

PTE (ton/yr) = Engine Capacity (hp) x EF (lb/hp-hr) x 500 hr x 1 ton/2000 lb

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Emissions from Vehicle Traffic - Criteria Pollutants

Purple values are pulled from other worksheet
Blue values are results

AP 42 Emission Factors - Paved Roads

According to AP 42, Chapter 13.2.1 - Paved Roads (01/2011), the PM/PM10/PM2.5 emission factors for paved roads can be estimated from the following equat

$$E_{ext} = (k\ (sL)^{0.91}\ (W)^{1.02})\ (1 - p/(4 \times 365))$$

Where:

E_{ext} = emission factor (lb/vehicle mile traveled)				Reference:
	k = empirical constant =	0.011	for PM	AP-42, Table 13.2.1-1
		0.0022	for PM10	AP-42, Table 13.2.1-1
		0.00054	for PM2.5	AP-42, Table 13.2.1-1
	sL = road surface silt loading (g/m^2) =	12.0	(g/m^2)	AP 42, Table 13.2.1-3
Transit Mix Truck	w = mean vehicle weight (tons) =	0.0	tons	Provided by Applicant
Gravel/Sand Delivery Truck	w = mean vehicle weight (tons) =	0.0	tons	Provided by Applicant
Other Delivery Truck	w = mean vehicle weight (tons) =	0.0	tons	Provided by Applicant
	p = number of days per year with 0.01 inches precipitation =	50	days	Provided by Applicant

	Emission Factors (lb/mile)		
	PM	PM10	PM2.5
Transit Mix Truck	0.00	0.00	0.00
Gravel/Sand Delivery Truck	0.00	0.00	0.00
Other Delivery Truck	0.00	0.00	0.00

AP 42 Emission Factors - Unpaved Roads

According to AP 42, Section 13.2.2 Unpaved Roads (11/2006), the PM/PM10/PM2.5 emission factors for unpaved roads can be estimated from the following equation:

$$E_{ext} = k\ (s/12)^{a}\ (W/3)^{b} \times (365-p)/365$$

Where:

E_{ext} = emission factor (lb/vehicle mile traveled)				Reference:
	k = particle size multiplier =	4.9	for PM	AP 42, Table 13.2.2-2
		1.5	for PM10	AP 42, Table 13.2.2-2
		0.15	for PM2.5	AP 42, Table 13.2.2-2
	s = surface material silt content (%) =	8.5		AP 42, Table 13.2.2-1
Transit Mix Truck	W = mean vehicle weight =	0.0	tons	Provided by Applicant
Gravel/Sand Delivery Truck	W = mean vehicle weight =	0.0	tons	Provided by Applicant
Other Delivery Truck	W = mean vehicle weight =	0.0	tons	Provided by Applicant
	a = empirical constant =	0.7	PM	AP 42, Table 13.2.2-2
	a = empirical constant =	0.9	PM10/PM2.5	AP 42, Table 13.2.2-2
	b = empirical constant =	0.45		AP 42, Table 13.2.2-2
	p = number of days per year with 0.01 inches precipitation =	50		Provided by Applicant

	Emission Factors (lb/mile)		
	PM	PM10	PM2.5
Transit Mix Truck	0.00	0.00	0.00
Gravel/Sand Delivery Truck	0.00	0.00	0.00
Other Delivery Truck	0.00	0.00	0.00

Potential to Emit

Vehicle Traffic

					Pollutant		
Road Type	Vehicle Type	Avg. Wt. (tons)	Trips/year	Distance (miles)	PM	PM_{10}	$PM_{2.5}$
Paved Roads	Transit Mix Truck	0	0	0	0.000	0.000	0.000
Paved Roads	Gravel/Sand Delivery Truck	0	0	0	0.000	0.000	0.000
Paved Roads	Other Delivery Truck	0	0	0	0.000	0.000	0.000
Unpaved Roads	Transit Mix Truck	25	616	1	0.000	0.000	0.000
Unpaved Roads	Gravel/Sand Delivery Truck	25	616	1	0.000	0.000	0.000
Unpaved Roads	Other Delivery Truck	0	0	0	0.000	0.000	0.000
PTE (ton/yr)					0.00	0.00	0.00

Methodology:
PTE (tons/yr) = Trips/yr x Distance (miles) x Emission Factor (lb/mile) x 1 ton/2,000 lbs

Controlled Emissions PM/PM10

The source will use periodic sweeping to control the fugitive dust emissions.
Control Efficiency From Sweeping (%): 50% [EPA will assume 50% control from following fugitive dust control plan for roadways.]

PM Emissions After Control (tons/yr) = PTE Before Control (tons/yr) x (1 - Control Efficiency From Sweeping/Watering (%)) =	0.00
PM10 Emissions After Control (tons/yr) = PTE Before Control (tons/yr) x (1 - Control Efficiency From Sweeping/Watering (%)) =	0.00

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Emissions from Storage Piles - Criteria Pollutants

Average Wind Speed	5	(mph)	Purple values are pulled from other worksheet
Moisture Content of Storage Piles	5	(%)	Blue values are results
Maximum Throughput Rate	1.5	(tons/hr)	

Emission Factors:

According to AP-42, Chapter 13.2.4 - Aggregate Handling and Storage Piles, the PM/PM10 emission factors for storage piles can be estimated from the following equation:

$$Ef = (0.0032 \times (U/5)^{1.3} \times k)/(M/2)^{1.4}$$

where:

Ef = Emission Factor (lbs/ton)

k = Particle size multiplier = 1 for PM and 0.35 for PM10

U = Mean wind speed (mph) = 5

M = Moisture content (%) = 5.0

PM Emission Factor =	0.0009	lbs/ton process
PM10 Emission Factor =	0.00031	lbs/ton process
PM2.5 Emission Factor =	0.00005	lbs/ton process

	Pollutant						
	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	VOC
Emission Factor (lbs/ton)	0.0009	0.00031	0.00005	0.00	0.00	0.00	0.00
PTE (ton/yr)	**0.0009**	**0.00031**	**0.00005**	**0**	**0**	**0**	**0**

Methodology

Uncontrolled PM/PM10 (tons/yr) = Maximum Throughput Rate (tons/hr) x Emission Factor (lbs/ton) x 8,760 hr/yr x 1 ton/2,000 lbs

Controlled Emissions PM/PM10

The source will use periodic sweeping to control the fugitive dust emissions.

Control Efficiency From Watering (%): 50%

[EPA will assume 50% control from following fugitive dust control plan for roadways.]

PM Emissions After Control (tons/yr) = PTE Before Control (tons/yr) x (1 - Control Efficiency From Sweeping/Watering (%)) = **0.00044**

PM10 Emissions After Control (tons/yr) = PTE Before Control (tons/yr) x (1 - Control Efficiency From Sweeping/Watering (%)) = **0.00016**

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Emissions from Solvent Degreasers - Criteria Pollutants and Hazardous Air Pollutants

Purple values are pulled from other worksheet
Blue values are results

INPUT THE FOLLOWING INFORMATION ABOUT ONSITE SOLVENT USE

Annual Solvent Use/Purchases (gal/year)	0	
Solvent Density (lbs/gal)	0	
Solvent VOC Content (%)	0	Note: Enter whole number for percent. If VOC content is 50 percent, enter "50".
Solvent HAP Content (%)	0	Note: Enter whole number for percent. If HAP content is 50 percent, enter "50".
Solvent Sent Offsite for Recycling (gal/yr)	0	

	Pollutant	
	VOC	HAPs
PTE (ton/yr)	**0.00**	**0.00**
Controlled Emissions (ton/yr)	**0.00**	**0.00**

Methodology

PTE (ton/yr) = Solvent Use (gal/yr) x Density (lb/gal) x % VOC Content x 1 ton/2,000 lb

Controlled Emissions (ton/yr) = PTE (ton/yr) x (1 - (Recycled Solvent (gal/yr)/Purchased Solvent (gal/yr)))