

# Air Program Fact Sheet

## Wisconsin Air Toxics Rule (NR 445)

### Incidental Emitters

Revised September 2012

Wisconsin's air toxics rule, [NR 445](#), applies to nearly every facility in Wisconsin with air emissions. Facilities must determine whether or not they emit air toxics, quantify their emissions, and reduce or control them where necessary.

Some facilities are expected to have minimal, if any, air toxics emissions. These "incidental emitters" face fewer requirements under NR 445. The incidental emitter category includes most non-manufacturing sectors and manufacturers that have limited emissions of particulate matter (PM) and volatile organic compounds (VOCs).

Incidental emitters must comply with NR 445 emission standards as well as emission inventory reporting and permitting requirements. However, their responsibility is limited to specific **processes** and **substances** that are of special concern, either because they are widely used or because the emissions are extremely hazardous.

This fact sheet helps facilities determine whether they are incidental emitters and describes their responsibilities under the regulation.

#### What facilities qualify as incidental emitters?

A facility is an incidental emitter if it meets one of the following two criteria:

1. Its primary business activity, as described by its Standard Industrial Classification (SIC) code, is listed in [Table D](#) of NR 445. The table includes most non-manufacturing SIC codes.
2. Its actual annual PM emissions are less than 5 tons per year (tpy) and its actual annual VOC emissions are less than 3 tpy.

**Table D: SICs for Incidental Emitters of Air Toxics**

2-Digit SIC Code or Range	SIC Title
01-09	Agriculture, forestry and fishing
15	General building contractors
17	Special trade contractors
40-45, 47	Transportation
48	Communications
50-51	Wholesale trade, <i>except the following</i> : <ul style="list-style-type: none"><li>• Coal and other minerals and ores (5052)</li><li>• Scrap and waste materials (5093)</li><li>• Chemicals and allied products (516)</li><li>• Petroleum and petroleum products (517)</li></ul>
52-59	Retail trade
60-69	Finance, insurance and real estate
70-89	Services, <i>except the following</i> : <ul style="list-style-type: none"><li>• Laundry, cleaning and garment services (721)</li><li>• Business services, not elsewhere classified (7389)</li><li>• Automotive repair shops (753)</li><li>• Miscellaneous repair shops (769)</li><li>• General medical and surgical hospitals (8062)</li><li>• Colleges, universities and professional schools (822)</li><li>• Research, development and testing services (873)</li></ul>

If your facility meets neither of these criteria, it is **not** an incidental emitter and you must follow the normal procedures for determining your regulatory requirements under NR 445.



If your facility meets either of these criteria, you may follow the incidental emitter procedures for determining your air toxics regulatory requirements.

See Appendix A for more information about identifying incidental emitter status using these two criteria. See Appendix B for information on calculating emissions.

### What are the Regulatory Requirements for Incidental Emitters?

Once a facility determines it is an incidental emitter, the first step is to determine whether the facility has air toxics emissions that are covered under the incidental emitter regulations:

1. Check for identified processes of concern (see table below), and comply with requirements as indicated.
2. Search for a limited list of substances of concern, and comply with emission standards.

#### Processes with Requirements Specified for Incidental Emitters

Process	Specified Requirement
Compression ignition (CI) internal combustion engine(s) with rated brake power greater than 100 horsepower used as a power source (usually diesel generators)	Meet applicable requirements in <a href="#">NR 445.09</a> <i>for that process</i>
Any expected source of chlorinated dioxins, furans or PCBs	Meet applicable requirements in <a href="#">NR 445.07(1)</a> for any hazardous air contaminants listed in <a href="#">Table A for that process</a>
Sludge incineration	
Chrome electroplating	
Gasoline dispensing	
Manufacture, treatment or disposal of a pesticide, rodenticide, insecticide, herbicide or fungicide resulting in an emission to the atmosphere	Meet applicable requirements in <a href="#">NR 445.07(2)</a> for any hazardous air contaminants listed in <a href="#">Table B for that process</a>
Manufacture, treatment or disposal of a pharmaceutical resulting in an emission to the atmosphere	Meet applicable requirements in <a href="#">NR445.07(3)</a> for any hazardous air contaminants listed in <a href="#">Table C for that process</a>
Solid, hazardous or medical waste incineration	Meet applicable requirements in <a href="#">NR 445.07(4)</a> <i>for that process (Tables A, B, and C)</i>

\*Tables A, B & C are tables of air toxics found in NR 445. Each table includes emission thresholds and standards, and control requirements and/or acceptable ambient air concentrations where applicable.

### Substances of Concern

[Table E](#) in NR 445 (see Appendix C) lists 81 air toxics that are of particular concern either because they are extremely hazardous to human health or because they are commonly emitted by facilities in Wisconsin. If an incidental emitter emits a Table E substance, it must meet the applicable requirements in NR [445.07\(1\)](#) for that substance. These are the same requirements that other emission sources of these pollutants must meet. The emission thresholds and standards for the substances are listed in [Table A](#) of NR 445.

### Next Steps...

After a facility has identified its air toxics emissions, the next steps are to:

- Quantify potential emissions
- Compare potential emissions to NR 445 table thresholds

If potential emissions are over table thresholds:

- Choose compliance options
- Certify compliance
- Keep records
- Determine whether a permit is needed ([NR 406/NR 407](#))
- Determine whether air toxics emissions need to be reported to the Air Emissions Inventory ([NR 438](#))

If potential emissions are equal to or under the table thresholds:

- Keep records

If the facility has an operation permit and reportable emissions, it will be subject to the annual emission fee ([NR 410](#)).

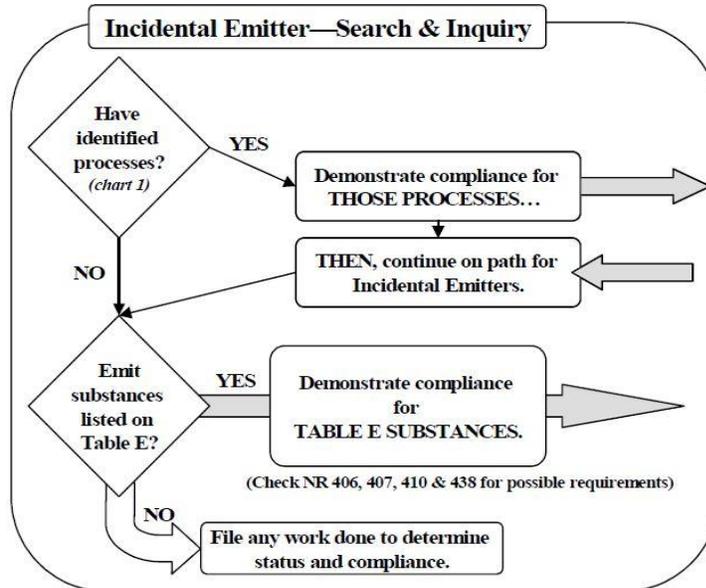
## FOR MORE INFORMATION

For the full text of the incidental emitters provision of the air toxics rule, refer to [NR445.11](#) in the Wisconsin Administrative Code. To download this fact sheet, see: <http://dnr.wi.gov/files/PDF/pubs/am/AM347.pdf>

## CONTACTS

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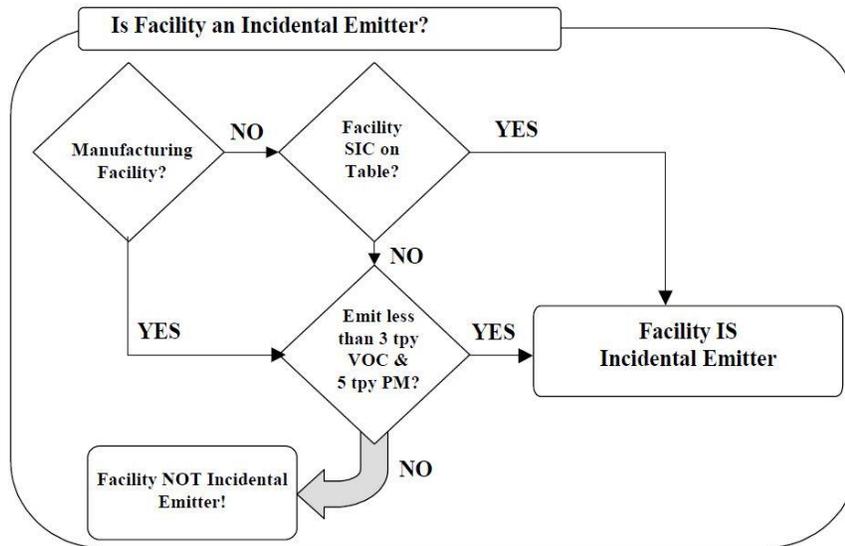
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## Appendix A: Determining Incidental Emitter Status

If a facility's SIC code is included in [Table D](#), which lists most non-manufacturing codes, the facility is an incidental emitter. If it is not included, determine whether the facility meets the emissions criteria for incidental emitters.



### Example 1—Not a Manufacturer

ABC Corporation is a financial institution with the SIC code 60. Since this code is included on Table D as a source of incidental emissions, ABC Corp. qualifies as an incidental emitter of air toxics.

### Example 2—Not a Manufacturer, and SIC Not on Table D

An automotive repair shop, CAR Inc., has a SIC code of 753. This code is not included on Table D as a source of incidental emissions. Therefore, CAR Inc. must check to see if it meets the emissions criteria for incidental emitters. The company calculates its actual annual emissions of VOCs & PM. It emits 1 tpy PM (less than the 5 tpy threshold) and 2 tpy VOCs (less than the 3 tpy threshold). CAR Inc. is an incidental emitter because its actual emissions of both PM & VOC are below the appropriate thresholds (See Appendix B for more information on emissions criteria).

### Standard Industrial Classification (SIC) codes

**SIC codes** classify all industries in the U.S. economy. A two-digit code designates each major industry group, which is coupled with a second two-digit code representing subcategories.

#### Find your facility's SIC

A facility's SIC code should be listed on workman compensation forms. Check to ensure the SIC code listed accurately describes the facility's activities.

Further information is available at:

- <http://www.osha.gov/oshstats/sicser.html>
- <http://www.osha.gov/cgi-bin/sic/sicser5>
- <http://www.census.gov/epcd/ec97brdg/>
- Or call the DNR at 608/266-7718

## Appendix B: Calculating Emissions

If your facility is not included in [Table D](#), you must determine if it meets the emissions criteria for an incidental emitter. Emissions of PM must be less than 5 tons per year (tpy) and emissions of VOCs must be less than 3 tpy for the facility to qualify as an incidental emitter.

### How do I calculate emissions of PM & VOC to determine if my facility is below the incidental emitter thresholds?

A facility should be able to estimate if its emissions come close to exceeding the incidental emitter thresholds for VOC or PM using a mass balance approach. Start with a rough estimate and add detail as needed according to the steps below.

#### Step 1: Rough Estimate

This calculation assumes all inputs are emitted and determines whether a facility is likely to emit over 3 tpy of any substance.

Quantify all material inputs (including process clean up materials, etc.).

- If inputs are less than 6,000 pounds per year (or 3 tpy)...  
→ **the facility is an incidental emitter**
- If inputs are more than 6,000 pounds per year (or 3 tpy)...  
→ **go on to the next step.**

#### Has your facility already made these calculations for the Air Emissions Inventory?

Many facilities will already know if they emit **over** 3 tons of VOCs or 5 tons of PM per year—these are the relevant reporting thresholds for the Air Emission Inventory (AEI; [NR 438](#)). If a facility reports VOC or PM to the AEI, they are not below incidental emitter thresholds.

#### Step 2: Estimate using liquid and dry inputs

This calculation assumes all inputs are emitted. PM emissions are estimated using dry inputs, and VOC emissions are estimated using liquid inputs.<sup>1</sup>

Quantify your material inputs as either dry inputs or liquid inputs.

- If dry inputs are less than 10,000 lbs per year (5 tpy) **and** liquid inputs are less than 6,000 lbs per year (3 tpy)...  
→ **the facility is an incidental emitter**
- If dry inputs are greater than 10,000 lbs per year (5 tpy) **or** liquid inputs are greater than 6,000 lbs per year (3 tpy)...  
→ **go on to the next step.**

#### Step 3: Estimate using end-product weights

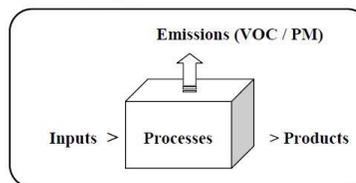
This calculation uses the weight of end products to estimate PM and VOC emissions. Assume all solvents evaporate off the product.

##### Estimate PM emissions

Pounds of dry inputs per year **minus** pounds of dry product per year **equals** pounds PM emitted per year:

$$\text{Dry inputs (lb)} - \text{dry products (lb)} = \text{PM emitted (lb)}$$

Mass Balance



<sup>1</sup> Note: some dry materials do result in VOC emissions and some liquid materials do result in PM emissions.

### Estimate VOC emissions

Pounds liquid inputs per year **multiplied** by highest VOC content (from MSDS)<sup>2</sup> **equals** pounds VOC emitted per year:

Liquid inputs (lb) x highest VOC content (% by weight) = VOC emitted (lb)

- If PM emissions are less than 10,000 pounds per year (5 tpy) **and** VOC emissions are less than 6,000 pounds per year (3 tpy)...  
→ **the facility is an incidental emitter**
- If PM emissions are greater than 10,000 pounds per year (5 tpy) **or** VOC emissions are less than 6,000 pounds per year (3 tpy)...  
→ **go on to the next step**

### Step 4: Calculate actual emissions

Calculate actual annual VOC and PM emissions using throughputs and emission factors, including emission control efficiencies where appropriate. Actual emissions include fugitive emissions in calculations for all processes/operations.

- If actual calculated annual emissions of both PM **and** VOCs are below the thresholds...  
→ **the facility is an incidental emitter**
- If either PM **or** VOC emissions exceed thresholds...  
→ **the facility is NOT an incidental emitter**

### Example

XYZ Corp. is a manufacturer, and therefore applies the emissions criteria to see if it qualifies as an incidental emitter. The company first gathers information on its inputs and outputs. XYZ Corp. uses three inputs:

Input A = 3,000 pounds per year (liquid)  
Input B = 2,000 pounds per year (dry)  
Input C = 7,000 pounds per year (dry)  
Total inputs = 12,000 pounds per year

### Step 1: Rough Estimate

- Total inputs of 12,000 pounds exceed the 6,000 pound per year cutoff.  
→ **go on to Step 2**

### Step 2: Estimate using liquid and dry inputs

VOC: 3,000 pounds of liquid inputs fall below the 6,000 pound cutoff.  
PM: 9,000 pounds of dry inputs is below the 10,000 pound cutoff.  
→ **XYZ Corp. is likely to be an incidental emitter**

### Step 3: Estimate using end-product weights

For an added margin of safety on the PM, XYZ Corp. calculates the weight of its dry output. It produces 8,000 pounds of widgets per year.

PM: Its dry inputs of 9,000 pounds per year, less its dry output of 8,000 pounds, equals 1,000 pounds, far below the 10,000 pound per year threshold.  
→ **XYZ Corp. clearly qualifies as an incidental emitter**

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<sup>2</sup> VOC content should be given as percent by weight. If instead the MSDS provides percent by volume, you will need to calculate percent by weight.

## Appendix C: Regulated Chemicals for Incidental Emitters (NR 445, Table E)

Chemical Name	CAS Number	Chemical Name	CAS Number
Acetaldehyde	75-07-0	Isophorone diisocyanate	4098-71-9
Acrolein	107-02-8	Lead Acetate, as Pb (64% lead)	301-04-2
Acrylamide	79-06-1	Lead Phosphate, as Pb (77% lead)	7446-27-7
Acrylic acid	79-10-7	Maleic anhydride	108-31-6
Acrylonitrile	107-13-1	Manganese, elemental and inorganic compounds (Mn)	7439-96-5
Ammonia	7664-41-7	Mercury (Hg), alkyl compounds	7439-97-6
Arsenic, elemental and inorganic compounds (As)	7440-38-2	Mercury (Hg), aryl compounds	7439-97-6
Arsine	7784-42-1	Mercury (Hg) inorganic forms including metallic mercury	7439-97-6
Benzene	71-43-2	Methyl hydrazine	60-34-4
Benzo(a)pyrene	50-32-8	Methyl isocyanate	624-83-9
Beryllium and beryllium compounds (Be)	7440-41-7	Methylene bisphenyl isocyanate (Methylene diphenyl isocyanate; MDI)	101-68-8
Bromine	7726-95-6	Methylene chloride (Dichloromethane)	75-09-2
Bromine pentafluoride	7789-30-2	Nickel and compounds (Ni)	7440-02-0
1,3-Butadiene	106-99-0	Nitric acid	7697-37-2
Cadmium and cadmium compounds (Cd)	7440-43-9	Octachloronaphthalene	2234-13-1
Carbon tetrachloride	56-23-5	Oxalic acid	144-62-7
Chlorine	7782-50-5	Pentachloronaphthalene	1321-64-8
Chlorine dioxide	10049-04-4	Pentachlorophenol (PCP)	87-86-5
Chlorine trifluoride	7790-91-2	Perchloroethylene (Tetrachloroethylene)	127-18-4
Chloroform	67-66-3	Phenylenediamine (mixtures and isomers)	106-50-3
Chromium (VI): Chromic acid mists and dissolved Cr (VI) aerosols (Cr)	7440-47-3	Phosphine	7803-51-2
Chromium (VI): compounds and particulates	7440-47-3	Phosphoric acid	7664-38-2
Cobalt, elemental, and inorganic compounds (Co)	7440-48-4	Phosphorus (yellow)	7723-14-0
Diborane	19287-45-7	Phosphorus pentachloride	10026-13-8
1,2-Dibromoethane (Ethylene dibromide; EDB)	106-93-4	Platinum, soluble salts (Pt)	7440-06-4
1,2-Dichloroethane (Ethylene dichloride; EDC)	107-06-2	Propylene dichloride (1,2-Dichloropropane)	78-87-5
Diglycidyl ether (DGE)	2238-07-5	Rhodium, soluble compounds (Rh)	7440-16-6
Ethylene oxide	75-21-8	Selenium and compounds (Se)	7782-49-2
Fluorine	7782-41-4	Sulfuric acid	7664-93-9
Formaldehyde	50-00-0	Tellurium and compounds, except hydrogen telluride (Te)	13494-80-9
Hexachlorobenzene (HCB)	118-74-1	Tetrafluoroethylene	116-14-3
Hexamethylene-1,6-diisocyanate (HDI)	822-06-0	Thallium, elemental and soluble compounds (Tl)	7440-28-0
Hydrazine and hydrazine sulfate	302-01-2	Tin organic compounds (Sn)	7440-31-5
Hydrogen bromide	10035-10-6	2,4-/2,6-Toluene diisocyanate (mixtures and isomers) (TDI)	584-84-9
Hydrogen chloride (Hydrochloric acid; Muriatic acid)	7647-01-0	Trichloroethylene (Trichloroethene)	79-01-6
Hydrogen cyanide	74-90-8	Trimellitic anhydride	552-30-7
Hydrogen fluoride (Hydrofluoric acid)	7664-39-3	Triorthocresyl phosphate	78-30-8
Hydrogen peroxide	7722-84-1	Tungsten (W), soluble compounds	7440-33-7
Hydrogen sulfide	7783-06-4	Vinyl chloride	75-01-4
Indium	7440-74-6	m-Xylene-alpha,alpha'-diamine	1477-55-0
Iodine	7553-56-2		