

**GENERAL PERMIT 3.1 TEMPLATE**  
**MISC. METAL PARTS PAINTING LINE < 3.5 GPH, <3.5 LB VOC/GAL.**

**C. Emissions Unit Terms and Conditions**

Note: The following are the terms and conditions for a General PTIO to be issued to a non-Title V facility

**1. [Emissions Unit ID], [Company Equipment ID]**

**Operations, Property and/or Equipment Description:**

[DAPC Description]

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. c)(2) and d)(5)

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	<p>Volatile organic compound (VOC) emissions shall not exceed 12.3 pounds per hour as a daily average from coatings, and 54.4 tons per year from both coatings and cleanup materials.</p> <p>Particulate emissions (PE) shall not exceed 0.551 pounds per hour and 2.4 tons per year from coatings.</p> <p>See c) below.</p> <p>The requirements established pursuant to this rule also include the requirements of OAC rule 3745-21-09(U)(1), OAC rule 3745-17-11(B)(1) and OAC rule 3745-17-07(A)(1)</p>
b.	OAC rule 3745-21-09(U)(1)	See Section b)(2)a. below.
c.	OAC rule 3745-17-11(B)(1)	The requirements established pursuant to this rule are equivalent to the short term

		particulate emission limitation included in OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-17-07(A)(1)	See Section b)(2)b. below.

(2) Additional Terms and Conditions

- a. The VOC content of the coatings employed shall not exceed a daily volume-weighted average of 3.5 lbs per gallon, as applied, excluding water and exempt solvents.
- b. Visible PE from any stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average, except as specified by rule.

c) Operational Restrictions

- (1) The permittee shall operate the dry filtration system for the control of particulate emissions whenever this emissions unit is in operation.
- (2) Prior to the use of any coating in this coating line, the permittee shall determine that the coating meets the toxic screening criteria described below.

Purpose: The purpose of this test is to evaluate coatings to determine if the chemical compounds in the coatings would be emitted at acceptable levels for the general permit.

Data Needed: (1) MSDS sheet for each coating to be evaluated. (2) information on the maximum coating usage rate for the line as discussed in Step 1 below.

Step 1. Using the following factors, calculate the maximum coating usage rate in terms of gallons per hour:

- a. Assume the coating line operates at its maximum speed while still making usable product.
- b. Assume the coating line is operating at its largest coating laydown rate. This would typically be accomplished by assuming the coating line is painting the largest part available.

Step 2. Review the material safety data sheet (MSDS) for the coating. Note each chemical compound listed, its TLV and the percent by weight of the chemical compound in the coating.

Step 3. Determine if any of the chemical compounds listed in the MSDS are also listed in the following table. If any of the chemical compounds are listed in the table, then calculate the maximum annual emission of that compound by multiplying the maximum coating usage rate times the percent by weight of each chemical compound. Then multiply the result by 8760 hours per year. The result will be in pounds per year.

Check to see if the calculated emission rate is less than the allowable emission rate found in the below table. If all of the compounds emitted have a maximum annual emission of less than the allowed rate, then move on to step 4. If any of the compounds are emitted at a rate higher than the allowed emission rate, then contact your

appropriate District Office or local air agency contact to determine if you can use the coating.

Chemical Compound	CAS	Molecular Weight (MW)	Allowed Emission Rate (lb/year)
arsenic compounds, as As	7440-38-2	74.92	1.70
benzene	71-43-2	78.11	1100
benzidine	92-87-5	184.23	5.60
benzo(a)pyrene	50-32-8	252.30	6.90
beryllium (and Be compounds)	7440-41-7	9.01	0.350
Cadmium	7440-43-9	112.4	5.20
Chromium	7440-47-3	varies	0.690
Hexachlorobenzene (HCB)	118-74-1	289.78	35.0
mercury (and Hg compounds)	7439-97-6	200.59	0.1
nickel (Ni subsulfide)	12035-72-2	240.19	17.0
Polychlorinated dibenzo-p-dioxins	1746-01-6	varies	0.030
Polychlorinated dibenzofurans	132-64-9	varies	0.030
polychlorinated biphenyls (PCBs, aroclors)	1336-36-3	varies	87.0
vinyl chloride	75-01-4	62.50	2000

Step 4. Find all of the chemical compounds in the coating that have a listed American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV). For each chemical compound with a listed TLV (other than those in the above table), calculate the maximum short-term emission rate by multiplying the maximum coating usage rate times the percent by weight of each chemical compound. The result should be in terms of pounds of the chemical compound per hour.

Step 5. Determine if the compound will be emitted at or below the acceptable rate. This is done by searching the following table for the chemical compound's TLV and then determining the maximum allowed emission rate listed in the below table. (Note. If the TLV is listed as ppm, then convert the TLV to  $\mu\text{g}/\text{m}^3$  by using the following formula:  $(\text{TLV in ppm}) \times (\text{MW}) \times (1000) / 24.45 = \text{TLV in } \mu\text{g}/\text{m}^3$ ; where MW is the molecular weight of the compound.) This table lists the allowable emission rates for compounds with a TLV between the high range and low range. Compare the maximum calculated short-term emission rate of each chemical compound to the allowed emission rate in the table. If the maximum emission rate is less than the allowed emission rate, then the chemical compound is emitted at an acceptable rate.

TLV Range ( $\mu\text{g}/\text{m}^3$ ) (The TLV must be less than the high value listed and greater than or equal to the low value listed)		Allowed Emission Rate (lb/hr)
15	1	0.000067
30	15	0.0010
60	30	0.0020
120	60	0.0040
240	120	0.0080

480	240	0.0160
960	480	0.0320
1,920	960	0.0640
3,840	1,920	0.128
7,680	3,840	0.256
15,360	7,680	0.512
30,720	15,360	1.02
61,440	30,720	2.05
122,880	61,440	4.10
245,760	122,880	8.19
491,520	245,760	16.4
983,040	491,520	32.8
1,966,080	983,040	65.5
3,932,160	1,966,080	131

Step 6. Check each chemical compound that has a listed TLV. If all compounds are emitted at a rate less than the allowed emission rate, then the coating passes the toxic screening test and can be used under this permit. If one or more of the chemical compounds are emitted at a rate greater than the allowed emission rate, then you should contact your appropriate District Office or local air agency contact to determine if you can use the coating.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall maintain daily records that document any time periods when the dry filtration system was not in service when the emissions unit was in operation.
- (2) The permittee shall collect and record the following information each day for the coating line:
  - a. The name and identification number of each coating employed.
  - b. The VOC content (excluding water and exempt solvents) of each coating, as applied.
  - c. The number of gallons (excluding water and exempt solvents) of each coating, as applied.
  - d. The daily VOC emissions from all the coatings employed, in pounds, [i.e., the sum of d)(2)b. times d)(2)c. for each coating employed].
  - e. The daily volume-weighted average VOC content of all the coatings, as applied, calculated in accordance with the equation specified in paragraph (B)(9) of OAC rule 3745-21-10 for CVOC,2.
  - f. The total number of hours this emissions unit was in operation.
  - g. The average hourly VOC emissions from all coatings employed, in pounds [i.e., the quotient of b)(2)d. divided by b)(2)f.].

Note: If the VOC content of each of the coatings employed during a day is less than 3.5 lbs per gallon, as applied, excluding water and exempt solvents, the daily volume-weighted average VOC content record is not required for that day.

- (3) The permittee shall collect and record the following information for each month for this emissions unit:
    - a. The company identification of each cleanup material employed.
    - b. The number of gallons of each cleanup material employed.
    - c. The VOC content of each cleanup material employed, in pounds per gallon.
    - d. The total VOC emissions from all the cleanup materials employed, in pounds [i.e., the sum of d)(2)b. times d)(2)c. for each cleanup material employed].
    - e. The amount of cleanup material recovered, in pounds.
    - f. The total monthly VOC emissions from cleanup operations, in pounds [i.e., d)(2)d. – d)(2)e.].
  - (4) The permittee shall calculate and record the total annual VOC emissions from coatings and cleanup materials, [i.e., the sum of the daily VOC emission rates from the coating materials for the calendar year in d)(2) plus the sum of the monthly emissions from cleanup materials for the calendar year in d)(3)].
  - (5) The permittee shall collect and record the results of any toxic screening evaluations done per c)(2).
- e) Reporting Requirements
- (1) The permittee shall notify the Director (appropriate District Office or local air agency) in writing of each daily record showing a daily volume-weighted average greater than 3.5 pounds VOC per gallon, as applied, excluding water and exempt solvents. The notification shall include a copy of such record and shall be sent to the Director (appropriate District Office or local air agency) within 30 days after the exceedance occurs.
  - (2) The permittee shall notify the Director (appropriate District Office or local air agency) in writing of any record showing that the dry filtration system was not in service when this emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Director (appropriate District Office or local air agency) within 30 days after the event occurs.
  - (3) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- f) Testing Requirements
- (1) Compliance with the emission limitations in b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitation:  
Daily volume-weighted average of 3.5 lbs VOC per gallon, as applied, excluding water and exempt solvents  
Applicable Compliance Method:  
Compliance shall based upon the record keeping specified in d)(2)
- b. Emissions Limitation:  
12.3 lbs/hr of VOC emissions, as a daily average  
Applicable Compliance Method:  
Compliance shall based upon the record keeping specified in d)(2)
- c. Emissions Limitation:  
54.4 TPY of VOC emissions  
Applicable Compliance Method:  
Compliance shall based upon the record keeping specified in d)(4)
- d. Emission Limitation:  
0.551 lb of PE per hour  
Applicable Compliance Method:  
To determine the worst case PE rate, the following equation shall be used:  
$$E = \text{maximum coating solids usage rate, in pounds per hour,} \times (1-TE) \times (1-CE)$$
  
Where E = PE rate (lbs/hr);  
TE = fractional transfer efficiency, which is the ratio of the amount of coating solids deposited on the coated part to the amount of coating solids used (0.55); and  
CE = fractional control efficiency of the control equipment (0.99).  
When requested by the Ohio EPA, the permittee shall demonstrate compliance with the above emissions limitation pursuant to OAC rule 3745-17-03 (B)(10).
- e. Emission Limitation:  
2.41 tons of PE per year  
Applicable Compliance Method:  
Compliance with the lb/hr emission limit demonstrates compliance with this limit because this limit is based on the lb/hr limit assuming the source operated 8760 hours per year.

f. Emission Limitation:

Visible PE from any stack serving this emissions unit shall not exceed 20 % opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:

When requested by the Ohio EPA, compliance with the above visible emission limitation shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03 (B)(1) using the methods and procedures specified in USEPA Reference Method 9.

- (2) In accordance with OAC rule 3745-21-04(B)(5), facilities located in Ashtabula, Butler, Clark, Clermont, Cuyahoga, Delaware, Franklin, Geauga, Greene, Hamilton, Lake, Licking, Lorain, Lucas, Mahoning, Medina, Miami, Montgomery, Portage, Stark, Summit, Trumbull, Warren and Wood Counties shall use USEPA Method 24 to determine the VOC contents of the coatings. If, pursuant to section 4.3 of Method 24, 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 cannot be used for a particular coating, the permittee shall so notify the Administrator of the USEPA and shall use formulation data for that coating to demonstrate compliance until the USEPA provides alternative analytical procedures or alternative precision statements for Method 24.

Facilities located in all other counties shall use USEPA Method 24 or formulation data to determine the VOC contents of the coatings.

US EPA Method 24 or formulation data shall be used to determine the VOC contents of the cleanup materials.

g) Miscellaneous Requirements

- (1) None.