

## PERMIT REVIEW FORM

FACILITY NAME: <u>Reed Air Products Group</u>	PTI NO. <u>03-11276</u>	
APPLICATION NO: <u>0387000107 K001</u>	INSTALLED: <u>Existing</u>	
<u>FACILITY</u>	<u>EMISSIONS UNIT</u>	<u>ALLOWABLE</u>
MAJOR (PSD) <u>no</u>	ACTUAL/ALLOWABLE > 25 TPY <u>yes</u>	STATE ENF. <u>yes</u>
MAJOR (TITLE V) <u>no</u>	AIR TOXICS APPLIES <u>yes</u>	FED. ENF. <u>yes</u>
SYNTH. MINOR <u>yes</u>	REGISTRATION STATUS <u>no</u>	

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### ACTUAL EMISSIONS

Company has calculated actual emissions based on the emissions units potential to emit.

Coating materials: Based on maximum VOC content/gallon and maximum hourly usage.

$$(6.2 \text{ lbs VOC/gallon})(2.6 \text{ gallons/hr}) = 16.2 \text{ lbs VOC/hr}$$

Cleanup materials: Based on maximum VOC content/gallon and maximum monthly usage.

Xylene -

$$(6.99 \text{ lbs/gallon})(100 \text{ gallons/month}) = 699 \text{ lbs VOC/month}$$
$$(6.99 \text{ lbs/gallon})(550 \text{ gallons/year}) = 1.92 \text{ TPY}$$

Company has requested annual emissions of VOC be limited to 50 TPY and HAPS be limited to less than the Title V thresholds of 10 and 25 TPY respectively.

Maximum VOC contents of coatings are 6.2 lbs/gallon excluding water and exempt solvents for high performance architectural aluminum coatings and 3.5 lbs/gallon excluding water and exempt solvents for all other coatings.

PE - Particulate emissions are expected to be <0.1 and <0.44 TPY

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### POTENTIAL EMISSIONS

VOC

$$(16.2 \text{ lbs/hr})(8760 \text{ hrs/year})(1/2000) = 70.92 \text{ TPY}$$

$$(699 \text{ lbs/month})(12)(1/2000) = 4.19 \text{ TPY}$$

Total - 75.11 TPY of VOC for all coatings and cleanup material

This facility does not exceed the Title V threshold for VOC emissions, however, they

wish to limit their potential to emit to 50 TPY in order to avoid a BAT study.

HAPS

It is expected that in the absence of federally enforceable terms and conditions and supportive recordkeeping that potential emissions of HAPS, based on worst case coatings, would exceed the 10 and 25 ton threshold for Title V. Therefore the permittee is requesting that federally enforceable limits be placed in the permit in order to limit the potential-to-emit below these levels.

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## **APPLICABLE REGULATIONS/EMISSION LIMITATIONS**

### OAC Rule 3745-31-05

VOC

All emissions are based on this emissions units hourly/monthly potential-to-emit

Coating material - 16.2 lbs VOC/hr  
Cleanup material - 699 lbs VOC/month

The permittee has requested that annual emissions be limited to 50 tons, and HAP emissions be limited to 10 and 25 respectively.

PE - 0.1 and 0.44 TPY

### OAC Rule 3745-17-11

UMRE (Figure II) - determined by multiplying coating weight/gallon by solids content and hourly usage, no listed coatings exceed 10 lbs/hr potential emission.

PWR (Table 1) - lowest emission limit is 0.551 lbs/hr. BAT establishes a more stringent allowable.

### OAC Rule 3745-17-07

20% opacity except as provided by rule

### OAC Rule 3745-21-09 (U)(1)(h)

6.2 lbs VOC/gallon excluding water and exempt solvents when applying high performance architectural aluminum coatings.

### OAC Rule 3745-21-09 (U)(1)(d)

3.5 lbs VOC/gallon excluding water and exempt solvents when applying any other coatings in this booth. The permittee also coats steel panels which are dried at 180 degrees F.

\* ACE language has been removed from this PTI per monthly conference call  
This emissions unit complies with all applicable emission limits/operating restrictions.

Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

**SYNTHETIC MINOR DETERMINATION**  
**PTI Application No. 03-8830**

- A. **Source Description**: Reed Air Products Group (hereafter referred to as the "permittee" ) (0387000107) proposes to modify 1 architectural metal louver coating line (K001) to incorporate federally enforceable terms and conditions limiting hazardous air pollutants (HAPS) below Title V and MACT 112 (g) significance levels. PTI application 03-11276 has been submitted for these proposed changes.
- B. **Facility Emissions and Attainment Status**: The potential-to-emit of VOC for this facility is 70.95 TPY. The facility is not classified as Title V for VOC emissions. In the absence of Federally Enforceable terms and conditions, emissions of HAPS are expected to exceed the Title V significance levels of 10 TPY and 25 TPY. Wood county is attainment for all pollutants.
- C. **Potential to Emit as a Result of this Permit**: Reed Air Products Group has voluntarily reduced the facility's potential to emit to levels below those which trigger Title V applicability, to 10 TPY and 25 TPY for HAP emissions.
- D. **Emissions as a Result of the Facility Modification**: Federally enforceable terms and conditions have been added to this permit to restrict the potential emissions of HAPS from Source K001. This will result in maximum potential HAP emissions of 10 TPY for a single HAP and 25 TPY aggregate of all HAPS.
- E. **Conclusions**: PTI Application No. 03-11276 shall serve to limit the HAP emissions allowable (and potential) to 10 TPY for any single HAP and 25 tons per year for an aggregate of all HAPS. Therefore, the facility is not a major source and will not be subject to Title V permitting requirements.

AIR EMISSION SUMMARY

The air contaminant sources listed below comprise the Permit to Install for Reed Air Products Group located in Wood County. The sources listed below shall not exceed the emission limits/ control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

<u>Ohio EPA Source No.</u>	<u>Source Identification/ Description</u>	<u>BAT Determination</u>	<u>Applicable Federal and OAC Rule</u>	<u>Permit Allowable Mass Emissions and/or Control &amp; Usage Requirements</u>
K001 (Modification)	Metal Architectural Louver Coating Line (Mod. to increase usage)	Compliance w/ terms and conditions in this permit and Ohio EPA Air Toxics Policy	3745-31-05	16.2 lbs VOC/hr from application of coating materials  699 lbs VOC/month from application of cleanup materials  50.0 tons VOC/year for all coatings and cleanup materials (See AST&C's)  10.0 tons for any

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		(See AST&C's)
for all HAPS/year		25.0 ton aggregate
		(See AST&C's)
emissions (PE)/hr,		0.10 lb particulate 0.44 ton PE/year
		0% Opacity as a six minute average
exempt solvents, for architectural	3745-21-09 (U)(1)(h)	6.2 lbs VOC/gallon, excluding water and all high performance aluminum coatings
	3745-21-09 (U)(1)(d)	3.5 lbs VOC/gallon excluding water and exempt solvents for all other coatings
	3745-17-11 (B)(1)	(*)
	3745-17-07 (A)(1)-(3)	(*)

\* The emissions limitations based on this applicable rule are less stringent than the limitations established pursuant to OAC Rule 3745-31-05

SUMMARY

Total Permit to Install Allowable Emissions

<u>Pollutant</u>	<u>Tons/Year (*)</u>
PM	0.44
VOC	50.0

\* VOC emissions represent an increase of 29.01 TPY over the previous limit established in PTI 03-1658. Particulate emissions were not addressed in previous permits.

**Additional Special Terms and Conditions**

**General Information**

Reed Air Products is proposing a modification to emissions unit K001 in order to increase the VOC content restriction to 6.2 lbs/gallon excluding water as specified in OAC 3745-21-09 (U)(1)(h), increase the allowable emission, and avoid the requirements of Title V and MACT 112(g) through federally enforceable terms and conditions.

**A. Applicable Emission Limitations and/or Control Requirements**

1. The emissions of VOC from emissions unit K001 shall not exceed 50.0 tons per year based upon a rolling 12 month summation of the monthly VOC input rates\* to emissions unit K001.

\*Monthly VOC input rate =  $\Sigma (C \times D)$  where C = the number of gallons of each coating/cleanup materials employed per month and D = the VOC content of each coating/cleanup material employed in pounds of VOC per gallon of coating/cleanup materials. Monthly VOC input rates are equivalent to monthly VOC emission rates and, in the absence of add-on controls, are based upon 100% of the solvent in the coating/cleanup materials being emitted.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the input rates specified in the following table:

Month(s)	Maximum Allowable Cumulative Input Rates of VOC's (Coatings and Cleanup)
1	6.36
1-2	12.72
1-3	19.08
1-4	25.44
1-5	31.8
1-6	38.16
1-7	44.52
1-8	50.0
1-9	50.0
1-10	50.0
1-11	50.0
1-12	50.0

2. The emission of **any single HAP** from emissions unit K001 shall not exceed 10.0 tons per rolling 12 month period based upon the monthly HAP input rates\* to emissions unit K001.

\*Monthly HAP input rate =  $\Sigma (C \times D)$  where C = the number of gallons of each coating/cleanup materials employed per month and D = the HAP content of each coating/cleanup material employed in pounds of HAP per gallon of coating/cleanup materials. Monthly HAP input rates are equivalent to monthly HAP emission rates and, in the absence of add-on controls, are based upon 100% of the solvent in the

coating/cleanup materials being emitted.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the input rates specified in the following table:

Month(s)	Maximum Allowable Cumulative Input Rates of HAP's (Coatings and Cleanup)
1	6.36
1-2	10.0
1-3	10.0
1-4	10.0
1-5	10.0
1-6	10.0
1-7	10.0
1-8	10.0
1-9	10.0
1-10	10.0
1-11	10.0
1-12	10.0

3. The emissions of **any aggregate of HAPS** from emissions unit K001 shall not exceed 25.0 tons of per rolling 12 month period based upon the monthly HAP input rates\* to emissions unit K001.

\*Monthly HAP input rate =  $\Sigma (C \times D)$  where C = the number of gallons of each coating/cleanup materials employed per month and D = the HAP content of each coating/cleanup material employed in pounds of HAP per gallon of coating/cleanup materials. Monthly HAP input rates are equivalent to monthly HAP emission rates and, in the absence of add-on controls, are based upon 100% of the solvent in the coating/cleanup materials being emitted.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the input rates specified in the following table:

Month(s)	Maximum Allowable Cumulative Input Rates of HAP's (Coatings and Cleanup)
1	6.36
1-2	12.72
1-3	19.08
1-4	25.0
1-5	25.0
1-6	25.0
1-7	25.0
1-8	25.0
1-9	25.0
1-10	25.0
1-11	25.0
1-12	25.0

4. After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual VOC/HAP emission limitations for emissions units K001 shall be based upon a rolling, 12-month summation of the coating and cleanup material VOC/HAP input rates.

**B. Operational Restrictions**

1. This permit allows the use of the coating materials specified by the permittee in the PTI 03-11276 for this emissions unit. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the organic compound emission limitation(s) specified in this permit was (were) established in accordance with the Ohio EPA's "Air Toxics Policy" and is (are) based on coating material formulation data and the design parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the SCREEN 3.0 model and a comparison of the predicted 1-hour maximum ground-level concentration to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for each pollutant:

Pollutant: Xylene

TLV (ug/m3): 434,000 mg/m<sup>3</sup>

Maximum Hourly Emission Rate (lbs/hr): 16.2 (\*)

Predicted 1-Hour Maximum Ground-Level  
Concentration (ug/m3): 674.4

MAGLC (ug/m3): 10,333 ug/m<sup>3</sup>

\* Note: These levels represent total emissions and not the incremental increases resulting from the modifications. Although the air toxics policy only requires the incremental increases be modeled, a demonstration of compliance with the air toxics policy at these levels is acceptable.

As long as the application of the "Air Toxics Policy" continues to show compliance with the applicable MAGLC, the permittee may implement any of the following changes with prior notification to and approval from the appropriate Ohio EPA District Office or local air agency:

- a. any changes in the composition of the coating materials, or the use of new coating materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above table;
- b. any change to the emissions unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height);

c. any change in the composition of the coatings or cleanup materials, or use of new coating materials, that would result in an increase in emissions of any "Hazardous Air Pollutants" as defined in OAC rule 3745-77-01(V).

d. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in the emission of any of the exempted organic compounds included in the definition of "VOC" [OAC rule 3745-21-01(B)(6)];

For any change to the emissions unit or its method of operation that would either require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01, the permittee shall obtain a permit to install prior to the change.

2. The permittee shall use only use coatings which comply with the applicable emission limitations in OAC Rule 3745-21-09 (U)(1)(e) and OAC Rule 3745-21-09 (U)(1)(h) in emissions unit K001 on an "as applied" basis.
3. All coatings employed in this emissions unit which are not classified as "high performance architectural aluminum coatings" [defined in OAC Rule 3745-21-01] shall not be dried at temperatures exceeding 250 degrees Fahrenheit.
4. The permittee shall operate the dry filtration system whenever this emissions unit is in operation.

**C. Monitoring and/or recordkeeping Requirements**

1. The permittee shall collect and record the following information each month for emissions units K001:

- (a) The name and identification number of each coating, as applied.
- (b) The VOC content of each coating (excluding water and exempt solvents), as applied.

2. The permittee shall collect and record the following information for the purpose of determining annual VOC emissions:

FOR INPUT RATES FROM COATING MATERIAL USAGE IN THIS EMISSIONS UNIT

- (a) The name and identification for each coating material employed.
- (b) The number of gallons of each coating material employed.
- (c) The VOC content of each coating material in lbs VOC/gallon as applied.
- (d) The VOC input rate for each coating material in tons/month [(b) x (c)/2000]
- (e) The total VOC input rate for all coating materials, in tons/month [summation of (d)].

FOR INPUT RATES FROM CLEANUP MATERIAL USAGE IN THIS EMISSIONS UNIT:

- (f) The Company identification of each cleanup material employed
- (g) The number of gallons of each cleanup material employed.
- (h) The VOC content of each cleanup material, in pounds/gallon.
- (l) The VOC input rate for each cleanup material, in tons/month  $[(g) \times (h) / 2000]$ .
- (j) The total VOC input rate for all cleanup material, in tons/month [summation of (l)].

FOR THE COMBINED INPUT RATES FROM ALL COATING AND CLEANUP IN THIS EMISSIONS UNIT:

- (k) The total VOC input rate for all coatings and cleanup materials, in tons/month  $[(e) + (j)]$ .
- (l) Beginning after the first 12 calendar months of operation following the issuance of this permit, the total VOC input rate/rolling 12-month period [calculated as follows: input/rolling 12-month period = (k) from preceding 11 months + (k) for the current month]. Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative VOC input rate for each calendar month.

3. The permittee shall collect and record the following information for the purpose of determining annual HAP emissions:

FOR INPUT RATES FOR HAPS FROM ALL COATING AND CLEANUP MATERIALS IN THIS EMISSIONS UNIT:

- (a) the name and identification of each coating material, as applied;
- (b) the HAP content (volume percent multiplied by the HAP density) of each HAP in each coating material (pounds/gallon), as applied;
- (c) the volume (gallons) of each coating employed;
- (d) the emissions of each individual HAP from all coating materials employed [the sum of (b) x (c) for each HAP in each coating];
- (e) the name and identification of each clean up material, as applied;
- (f) the HAP content (volume percent multiplied by the HAP density) of each HAP in each clean up material (pounds/gallon), as applied;
- (g) the volume (gallons) of each clean up material employed;
- (h) the emissions of each individual HAP from all clean up materials employed [the sum of (f) x (g) for each HAP in each clean up material];

- (l) the total emissions of each individual HAP from all coating and clean up materials combined [the sum of (d) and (h) for each individual HAP];
- (j) the total emissions of all HAPs combined from all coating and clean up materials employed [the sum of each individual HAP's total emissions from (l)].

In addition, the company shall calculate the rolling 12-month total summation of input rates of each individual HAP and the rolling 12-month total summation of input rates of all HAPs combined. As specified in (A)(2) and (A)(3) above, the emissions of individual HAPs from operations at this facility shall be less than 10 tons per year and the emissions of all HAPs combined from operations at this facility shall be less than 25 tons per year.

A listing of the Hazardous Air Pollutants (HAPs) can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting the Ohio EPA, Division of Air Pollution Control, Northwest District Office. Material Safety Data Sheets typically include a listing of the solvents contained in the coatings or clean up materials. This information does not have to be kept on a line-by-line basis.

- 4. The permittee shall maintain daily records that document any time periods when the dry filtration was not in service when the emissions unit was in operation.
- 5. The permittee shall record the temperature of the cure oven associated with this coating line when employing coatings in this emissions unit which are not classified as "high performance architectural aluminum coatings" [defined in OAC Rule 3745-21-01]
- 6. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings, if a strip-chart recorder is employed, for continuous monitoring instrumentation, and copies of all reports required by the permit. Such records may be maintained in computerized form.

#### **D. Reporting Requirements**

- 1. The permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) in writing of any monthly record showing the use of noncomplying coatings in emissions unit K001. The notification shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days following the end of the calendar month.
- 2. The permittee shall notify the Director (the appropriate District Office of local air agency) in writing of any daily record showing that the dry filtration system was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Director (the appropriate District Office of local air agency) within 30 days after the event occurs.
- 3. The permittee shall submit quarterly written reports for emissions unit K001 of (a)

any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

## **E. Testing Requirements/Compliance Methods Determinations**

1. Compliance with the emission limitation(s) in the Applicable Emission Limitations and/or Control Requirements and Air Emissions Summary of these terms and conditions shall be determined in accordance with the following method(s):

a. Emission Limitations:

K001: 16.2 lbs VOC/hour from all coating materials  
699 lbs VOC/month from all cleanup materials

Applicable Compliance Method:

The hourly VOC limit for coatings and the monthly VOC limit for cleanup operations are based on the emission unit's potential to emit. Therefore, no daily recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with these limits.

b. Emission Limitations:

K001: 50.0 TPY based on a rolling, 12-month summation of VOC input rates from all coating and cleanup materials

10.0 TPY based on a rolling, 12-month summation of any single HAP input rate from all coatings and cleanup materials

25.0 TPY based on a rolling, 12-month summation of an aggregate of all HAP input rates from all coatings and cleanup materials

Applicable Compliance Method:

The record keeping requirements in the Monitoring and/or Recordkeeping section of this permit shall be used to determine compliance with the above limits.

2. Emission Limitations:

K001: 6.2 lbs VOC/gallon excluding water and exempt solvents for the application of high performance architectural aluminum coatings.

3.5 lbs VOC/gallon excluding water and exempt solvents for all other coating materials.

Applicable Compliance Method:

The record keeping requirements in the Monitoring and/or Recordkeeping section of this permit shall be used to determine compliance with the above limits.

Any determination of the VOC content\*, solids content, or density of a coating and/or cleanup material shall be based on the coating/cleanup material as applied, including the addition of any thinner or viscosity reducer to the coating/cleanup material. The permittee shall determine the composition of the coating/cleanup material by formulation data supplied by the manufacturer of the coating/cleanup material, or from data determined by an analysis of each coating/cleanup material, as received, by 40 CFR 60, Appendix A, Method 24. The Ohio EPA may require the permittee, if it uses the formulation data supplied by the manufacturer, to determine data used in the calculation of the VOC content of the coating/cleanup material by Reference Method 24 or an equivalent or alternative method.

\* "VOC content" means all organic compounds that are in a coating/cleanup material expressed as pounds of VOC per gallon.

3. Emission Limitation:

0.10 lb/hr particulate emissions, 0.44 ton/yr

Applicable Compliance Method:

To determine the actual worst case particulate rate (E), the following equation shall be used for the paint spraying operations:

$E = \text{particulate matter emissions rate (lbs/hr)}$

$E = \text{maximum coating solids usage rate in pounds per hour} \times (1-TE) \times (1-CE)$

TE = transfer efficiency, which is the ratio of the amount of coating solids deposited on the coated part to the amount of coating solids used (60% considering 40 CFR 60.453)

CE = control efficiency of the control equipment (assumed to be 90%)

Annual emissions may be calculated based on multiplying E by the annual operating schedule for the emissions unit.

If required, the permittee shall demonstrate compliance with the above emissions limit pursuant to 40 CFR part 60 Appendix A, Method 5.

4. Emission Limitation:

0% opacity as a six minute average except as provided by rule.

Applicable Compliance Method:

U.S. EPA Reference Method 9 (40 CFR Part 60, Appendix A).

**F. Miscellaneous Requirements**