

June 7, 2004

**VIA CERTIFIED MAIL 7000 0600 0023 5190 7727**

Mr. Terrell J. Small III  
Mortex Products, Inc.  
6233 Brookville Road,  
Indianapolis, IN 46219

Re: Registered Operation Status,  
097-18139-00272

Dear Mr. Small:

The application from Mortex Products, Inc. received on February 22, 1999, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following industrial coating plant for small metal auto parts manufacturing, located at 6233 Brookville Road, Indianapolis, Indiana 46219, is classified as registered:

- (a) One (1) electro-deposition dip application process, constructed in 1994, using dip coating application system, exhausting to stack ID 11.
- (b) One (1) powder coating operation constructed in 1995, identified as Powder coat process, utilizing spray gun application method and cartridge filters for particulate matter control, and exhausting to stack ID 24.
- (c) Two (2) natural gas fired curing ovens, each rated at 2.5 million (MM) British thermal units (Btu) per hour, and exhausting to stack IDs 7 and 8.
- (d) One (1) natural gas fired space heater, rated at 0.05 MMBtu per hour, and exhausting to stack ID 17.
- (e) Four (4) natural gas fired space heaters, each rated at 0.15 MMBtu per hour, and exhausting to stack IDs 26, 27, 51, and 52.
- (f) Three (3) natural gas fired radiant tube type heaters, each rated at 3.0 MMBtu/hr, and exhausting to stack IDs 2, 3 and 5.
- (g) Pre-treatment process using water based alkaline solutions for cleaning and surface preparation of small metal parts.

The following conditions shall be applicable:

- (a) Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
  - (1) Opacity shall not exceed an average of thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60,

Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

- (b) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour. Therefore, the particulate emissions from the one (1) powder coating operation shall each not exceed 0.551 pounds per hour.
- (c) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating), any change or modification which would increase the actual VOC emissions to fifteen (15) pounds per day or more from the manual touchup booth shall obtain prior approval from IDEM, OAQ.

An authorized individual shall provide an annual notice to the Office of Air Quality and Office of Environmental Services (OES) that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

**Compliance Data Section  
Office of Air Quality  
100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, IN 46206-6015**

and

**Office of Environmental Services  
Air Quality Management Services  
Compliance Data Group  
2700 Belmont Avenue, Indianapolis, Indiana 46221-2097**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) and Office of Environmental Services (OES) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original Signed on 6/7/2004by

John B. Chavez  
Administrator

AY/EVP

cc:  
File - Air Compliance – Matt Mosier  
Permit Tracking – Mindy Hahn

## Registration Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

<b>Company Name:</b>	Mortex Products, Inc.
<b>Address:</b>	6233 Brookville Road
<b>City:</b>	Indianapolis
<b>Authorized individual:</b>	Terrell J. Small III
<b>Phone #:</b>	(317) 322-7450
<b>Registration #:</b>	097-18139-00272

I hereby certify that Mortex Products, Inc. is still in operation and is in compliance with the requirements of Registration 097-18139-00272.

<b>Name (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

**Indiana Department of Environmental Management  
Office of Air Quality  
and  
Indianapolis Office of Environmental Services**

**Technical Support Document (TSD) for a Registration**

**Source Background and Description**

<b>Source Name:</b>	Mortex Products, Inc.
<b>Source Location:</b>	6233 Brookville Road, Indianapolis, IN 46219
<b>County:</b>	Marion
<b>SIC Code:</b>	3999
<b>Operation Permit No.:</b>	R097-18139-00272
<b>Permit Reviewer:</b>	Adeel Yousuf / EVP

The Office of Air Quality (OAQ) and Indianapolis Office of Environmental Services (OES) have reviewed an application from Mortex Products, Inc. relating to the surface coating operation.

**Unpermitted Emission Units and Pollution Control Equipment**

The source consists of the following unpermitted emission units and pollution control devices:

- (a) One (1) electro-deposition dip application process, constructed in 1994, using dip coating application system, exhausting to stack ID 11.
- (b) One (1) powder coating operation constructed in 1995, identified as Powder coat process, utilizing spray gun application method and cartridge filters for particulate matter control, and exhausting to stack ID 24.
- (c) Two (2) natural gas fired curing ovens, each rated at 2.5 million (MM) British thermal units (Btu) per hour, and exhausting to stack IDs 7 and 8.
- (d) One (1) natural gas fired space heater, rated at 0.05 MMBtu per hour, and exhausting to stack ID 17.
- (e) Four (4) natural gas fired space heaters, each rated at 0.15 MMBtu per hour, and exhausting to stack IDs 26, 27, 51, and 52.
- (f) Three (3) natural gas fired radiant tube type heaters, each rated at 3.0 MMBtu/hr, and exhausting to stack IDs 2, 3 and 5.
- (g) Pre-treatment process using water based alkaline solutions for cleaning and surface preparation of small metal parts.

**Existing Approvals**

This source has no existing approvals.

**Enforcement Issue**

Any existing source that did not have a valid air registration on November 25, 1998, were required to apply for approval under this rule no later than twelve (12) months from the effective date of this rule. Mortex Products, Inc. applied for a permit on February 22, 1999, which was within the

twelve (12) month timeframe required by the rule. Therefore, there are no enforcement actions pending.

### Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. A complete application for the purposes of this review was received on February 22, 1999.

### Emission Calculations

See Appendix A: pages 1 through 5 of this document for detailed emissions calculations.

### Potential to Emit of the Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential to Emit (tons/yr)
PM	7.27
PM-10	7.64
SO <sub>2</sub>	0.04
VOC	0.80
CO	5.39
NO <sub>x</sub>	6.42

HAPs	Potential to Emit (tons/yr)
Hexane	0.11
Others	0.01
Total	0.12

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants are less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of criteria pollutants is less than 25 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-6.1.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM and PM10 are greater than levels listed in 326 IAC 2-1.1-3(d)(1), therefore the source is subject to the provisions of 326 IAC 2-5.5.1. A registration will be issued.
- (d) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year, therefore, the source is not subject to the provisions of 326 IAC 2-7.

- (e) **Fugitive Emissions**  
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

**County Attainment Status**

The source is located in Marion County.

Pollutant	Status
PM-10	Unclassifiable
SO <sub>2</sub>	Maintenance, attainment
NO <sub>2</sub>	Attainment
Ozone	Maintenance, attainment
CO	Attainment
Lead	Unclassifiable

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Marion County has been classified as attainment or unclassifiable for PM10, SO2, NO2, ozone, CO, and Pb. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Fugitive Emissions**  
 Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

**Source Status**

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	0.14
PM-10	0.51
SO <sub>2</sub>	0.04
VOC	0.80
CO	5.39
NO <sub>x</sub>	6.42
Single HAP	0.11
Combination HAPs	0.12

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

- (b) These emissions were based on the information provided in the source's permit applications (see Appendix A for emission calculations).

### **Part 70 Permit Determination**

#### 326 IAC 2-7 (Part 70 Permit Program)

This existing source, with total emissions as indicated in this permit R-097-18139-00272, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on the revised PTE calculations (see Appendix A).

### **Federal Rule Applicability**

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) The parts cleaning process using a water based alkaline solution is not subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 20, (40 CFR 63, Subpart T) because the operation does not use any of the listed solvents for cleaning.
- (c) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

### **State Rule Applicability – Entire Source**

#### 326 IAC 2-2 (Prevention of Significant Deterioration)

Since this source was constructed in 1989 and had a potential to emit air pollutants that were less than 250 tons per year, it was an existing minor source under PSD. It is not in 1 of 28 listed source categories. There has been no modification to the source since its construction, therefore, the source remains a minor source. Therefore, the source is not subject to the provisions of 326 IAC 2-2.

#### 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The source emits less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1-1 does not apply.

#### 326 IAC 2-6 (Emission Reporting)

This source is located in Marion County and is not subject to the requirements of 326 IAC 2-7(Part 70 Permit) and is not a source that emits five(5) tons per year of Lead. Therefore, 326 IAC 2-6 does not apply.

#### 326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

### **State Rule Applicability – Individual Facilities**

#### **326 IAC 6-1-1 (Particulate Limitations - Marion County)**

This rule applies to specifically listed sources or facilities, or sources or facilities not specifically listed but located in a listed county and having either a potential to emit of 100 tons per year (tpy) or more actual emissions of 10 tpy or more of PM.

The source is located in Marion County, a specifically listed county. The source and its facilities are not specifically listed at 326 IAC 6-1-12 and, therefore, the requirements of 326 IAC 6-1-12 do not apply. The PTE of PM for the source is less than 100 tpy and the actual source PTE of PM is less than 10 tpy. Therefore, the requirements of 326 IAC 6-1 do not apply.

#### **326 IAC 6-3 (Particulate Emission Limitations from Manufacturing Processes)**

- (a) One (1) electro-deposition dip application process uses dip coating application method with 100% transfer efficiency producing no particulate emissions. Therefore, this coating operation is not subject to the requirements of 326 IAC 6-3.
- (b) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour. Therefore, the particulate emissions from the one (1) powder coating operation shall each not exceed 0.551 pounds per hour.

Visible emission notations are not required for the dry filters controlling the powder coating operation because they have allowable particulate emissions pursuant to 326 IAC 6-3-2 that are low.

#### **326 IAC 8-1-6 (New Facilities - General Reduction Requirement)**

The source is not subject to this rule. This rule applies to all facilities constructed after January 1, 1980, which have potential VOC emission rates of 25 or more tons per year, and which are not otherwise regulated by other provisions of 326 IAC 8. The one (1) electro-deposition dip application process was constructed after January 1, 1980, but the potential VOC emissions from this operation are less than twenty-five (25) tons per year. Therefore, 326 IAC 8-1-6 does not apply.

#### **326 IAC 8-2-9 (Miscellaneous Metal Coating)**

- (a) Pursuant to 326 IAC 8-2-1 (Applicability) and 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), this rule applies to facilities constructed after July 1, 1990 located in any county, and with actual VOC emissions of greater than fifteen (15) pounds per day before add-on controls. The one (1) electro-deposition application process has VOC emissions less than 15 pounds per day and therefore, it is not subject to the requirements of 326 IAC 8-2-9.
- (b) The one (1) powder coating operation is not subject to the requirements of 326 IAC 8-2-9 because powder coating operation does not emit VOCs.

#### **326 IAC 8-3-2 (Cold Cleaner Operation)**

This rule applies to new facilities after January 1, 1980, performing organic solvent degreasing operations located anywhere in the state. Parts cleaning process at this only uses water based alkaline solutions which do not contain any organic solvents. Therefore, the source is not subject to the requirements of 326 IAC 8-3-2 (Cold Cleaner Operation).

### **Conclusion**

The operation of this coating plant for small metal auto parts manufacturing shall be subject to the conditions of the attached Registration 097-18139-00272.

## Appendix A: Emission Calculations

**Company Name:** Mortex Products, Inc.  
**Address City IN Zip:** 6233 Brookville Road, Indianapolis, IN 46219  
**Part 70 No.:** 097-18139-00272  
**Reviewer:** Adeel Yousuf/EVP  
**Date:** December 15, 2003

<b>Uncontrolled Potential Emissions (tons/year)</b>				
Emissions Generating Activity				
Pollutant	Dip Coating Process	Powder Coating Process	Natural Gas Combustion Units	<b>TOTAL</b>
PM	0.00	7.15	0.12	7.27
PM10	0.00	7.15	0.49	7.64
SO2	0.00	0.00	0.04	0.04
NOx	0.00	0.00	6.42	6.42
VOC	0.45	0.00	0.35	0.80
CO	0.00	0.00	5.39	5.39
total HAPs	0.00	0.00	0.12	0.12
worst case single HAP	0.00	0.00	0.11 (Hexane)	0.11 (Hexane)
<b>Controlled Potential Emissions (tons/year)</b>				
Emissions Generating Activity				
Pollutant	Dip Coating Process	Powder Coating Process	Natural Gas Combustion Units	<b>TOTAL</b>
PM	0.00	0.02	0.12	0.14
PM10	0.00	0.02	0.49	0.51
SO2	0.00	0.00	0.04	0.04
NOx	0.00	0.00	6.42	6.42
VOC	0.45	0.00	0.35	0.80
CO	0.00	0.00	5.39	5.39
total HAPs	0.00	0.00	0.12	0.12
worst case single HAP	0.00	0.00	0.11 (Hexane)	0.11 (Hexane)
See attached spreadsheets from source for full calculations.				
Total emissions based on rated capacity at 8,760 hours/year, after control.				

**Appendix A: Emission Calculations  
Surface Coating**

**Company Name: Mortex Products, Inc.  
Address City IN Zip: 6233 Brookville Road, Indianapolis, IN 46219  
Part 70 No.: 097-18139-00272  
Reviewer: Adeel Yousuf/EVP  
Date: December 15, 2003**

**Electro-Deposition (E-Coat) Dip Process**

VOC Emissions

Operation	Chemical	VOC Content (lb/gal)	Maximum Usage (lb/hr)	Percent VOC Evaporated (%)	Potential emissions (TPY)
E-Coat Dip/Dry	670 Resin/415 Paste	0.09	0.04	100.00%	0.182
E-Coat Cure	670 Resin/415 Paste	0.09	0.06	100.00%	0.272
<b>Total VOC</b>					<b>0.454</b>

Notes:

E-Coat dip coating is a water based, wet coating. Transfer efficiency is 100%, therefore there are no particulates emitted.

E-Coat Dip does not contain any listed hazardous air pollutants.

Appendix A: Emissions Calculations

Powder Coating Operations

Company Name: Mortex Products, Inc.

Address City IN Zip: 6233 Brookville Road, Indianapolis, IN 46219

Part 70 No.: 097-18139-00272

Reviewer: Adeel Yousuf/EVP

Date: December 15, 2003

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Pounds of Powder used (lb/hr)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Powder Coat Process	n/a	0.00%	0.0%	0.0%	0.0%	100.00%	16.31300	0.00	0.00	0.00	0.00	0.00	7.145	0.00	90%
<b>Potential Emissions</b>										<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>7.15</b>		
<b>Controlled Potential Emissions</b>															

Total Controlled Potential Emissions:

Control Efficiency PM	Controlled PM tons/yr
99.70%	0.021

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) \* (lb/unit) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100**

**Company Name: Mortex Products, Inc.  
Address City IN Zip: 6233 Brookville Road, Indianapolis, IN 46219  
Part 70 No.: 097-18139-00272  
Reviewer: Adeel Yousuf/EVP  
Date: December 15, 2003**

Heat Input Capacity	Potential Throughput
MMBtu/hr	MMCF/yr
14.7	128.3

**Facilities**

Two natural gas fired curing ovens, each rated at 2.5 MMBtu/hr.  
One natural gas fired space heater, rated at 0.05 MMBtu/hr.  
Four natural gas fired space heaters, each rated at 0.15 MMBtu/hr.  
Three natural gas fired radiant tube type heaters, each rated at 3.0 MMBtu/hr.

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.12	0.49	0.04	6.42	0.35	5.39

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

(SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

**Appendix A: Emissions Calculations  
 Natural Gas Combustion Only  
 MM Btu/hr 0.3 - < 100**

**HAPs Emissions**

**Company Name: Mortex Products, Inc.  
 Address City IN Zip: 6233 Brookville Road, Indianapolis, IN 46219  
 Part 70 No.: 097-18139-00272  
 Reviewer: Adeel Yousuf/EVP  
 Date: December 15, 2003**

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.348E-04	7.700E-05	4.813E-03	1.155E-01	2.182E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.208E-05	7.058E-05	8.983E-05	2.438E-05	1.348E-04

Methodology is the same as page 16.

**Total: 1.211E-01**

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations**

**Powder Coating Operations**

**Company Name: Mortex Products, Inc.**

**Address City IN Zip: 6233 Brookville Road, Indianapolis, IN 46219**

**Part 70 No.: 097-18139-00272**

**Reviewer: Adeel Yousuf/EVP**

**Date: December 15, 2003**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Pounds of Powder used (lb/hr)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Powder Coat Process	n/a	0.00%	0.0%	0.0%	0.0%	100.00%	16.31300	0.00	0.00	0.00	0.00	0.00	7.145	0.00	90%
<b>Potential Emissions</b>										<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>7.15</b>		
<b>Controlled Potential Emissions</b>															

**Total Controlled Potential Emissions:**

Control Efficiency PM	Controlled PM tons/yr
99.70%	<b>0.021</b>

**METHODOLOGY**

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) \* (lb/unit) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used