**MEMORANDUM**

**DATE:** December 12, 2000

**SUBJECT:** Stakeholder teleconference to review the preliminary MACT floor determination for the fabric coating subcategory of the fabric coating, printing, and dyeing source category

**FROM:** Steve York and Alton Peters, RTI

**TO:** Vinson Hellwig, EPA/OAQPS/ESD/CCPG

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## I. Purpose

The purpose of the teleconference was for the US Environmental Protection Agency (EPA) to provide a briefing of the preliminary MACT floor determination for the fabric coating subcategory to stakeholders for review and comment.

## II. Date and Place

November 30, 2000
U.S. EPA
N.C. Mutual Building
Durham, North Carolina

## III. Participants

See the list of participants at the end of this memorandum.

## IV. Meeting Summary

Vinson Hellwig of the EPA chaired the teleconference and opened with introductions of participants and an overview of the purpose of the teleconference. Mr. Hellwig then conducted the EPA briefing,

following the attached document which was distributed before the teleconference. For supplemental information provided during the briefing and topics that were discussed by the participants, the following paragraphs present summaries of information provided and issues raised. The page number presented parenthetically with each topic refers to the corresponding page in the attached briefing document. [As noted in the (Page 2) summary below, EPA has determined that coating fiberglass substrates will be covered under the Fabric NESHAP. Pages 2, 3, 4, 7, and 9 of the briefing document have been revised to reflect the addition of one facility to the database. The MACT floors were not affected.]

**Fabric Coating MACT Survey (Page 2)**

Mr. Hellwig noted that regarding the coating of fiberglass substrates, EPA is determining internally whether this process will be covered under the paper and other web coating NESHAP or under fabric coating. [Note: Coating of fiberglass substrates will be covered under the Fabric NESHAP.]

**HAP Emissions from Fabric Coating Operations (Page 3)**

Mr. Hellwig stated that because of the small proportion of HAP emissions from fabric coating operations reported to be coming from ancillary operations, a lot of time and effort will not be spent evaluating controls for these sources. Work practice requirements for the ancillary operations will be evaluated.

**Summary of Control Device Use by Facilities in Fabric Coating Industry MACT Database (Page 4)**

Mr. Hellwig observed that the affected facility will be defined as the contiguous facility, encompassing all of the fabric coating lines at the facility. This will allow for averaging across the coating lines in a facility. In response to a question regarding the availability of the database, Mr. Hellwig stated that the detailed database is not available because it contains confidential business information (CBI). Mr. Hellwig also noted that the database contains reported efficiency, but not the age of the control device. In addition, Mr. Hellwig stated that the database includes information on coating lines with different application techniques, but that this information has not been broken out since the controls are basically identical. A stakeholder submitted that controls may be different for coating processes involved in tennis ball manufacturing.

**Representativeness of Control Device Performance Data (Page 5)**

Regarding the 98 percent efficiency routinely guaranteed for regenerative or recuperative thermal oxidizers in the first year of operation, a stakeholder questioned what efficiency should be expected after the first year. Mr. Hellwig submitted that since 99 percent destruction efficiency is in the database, EPA assumes that 98 percent is attainable long term. In response to a question of whether the

destruction efficiencies in the database represent destruction of VOC or HAP, Mr. Hellwig responded that it represents VOC destruction, but that most volatile HAP is VOC and VOC is being used as a surrogate for HAP. A stakeholder asked if sources not reporting HAP emissions are reporting pollution prevention (P2) measures. Mr. Hellwig answered that P2 is not reported in the database, but that most sources reporting HAP emissions require the use of HAP as carriers for the polymers being applied.

**Quality of Capture Efficiency Data (Page 6)**

Mr. Hellwig noted that for a permanent total enclosure meeting Method 204 criteria, the capture efficiency is defined as 100 percent.

**MACT Floor Determination (Page 7)**

Because discussion of the MACT floor determination consisted of questions from stakeholders with responses from EPA, a question and answer format is used to summarize the discussion of this topic as follows.

Question: If there are fewer than 30 facilities in the database, aren't the top five used in the MACT floor determination?
Answer: The top five are only used if the entire source category has fewer than 30 facilities. According the Office of General Counsel (OGC), for a source category with more than 30 facilities, the top 12 percent of the database defines the MACT floor.

Question: Is there a memorandum from OGC regarding using the top 12 percent of the database?
Answer: No, this is based on verbal communication with OGC. It is also based on statutory language in the Clean Air Act. Section 112(d)(3) states "...category or subcategory shall not be less stringent, and may be more stringent than–
(A) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the administrator has emissions information)..."

Question: How many facilities are in the fabric coating industry?
Answer: There are around 200 facilities with about half of the facilities being area sources.

Question: Another group within EPA has taken synthetic minors out of the MACT floor analysis; should they be included here?
Answer: According to OGC, synthetic minors should be included.

Question: Was the age of the facility considered in the MACT floor determination?
Answer: A facility would not be included if it just began operation within the last year. This would not apply because the fabric coating database is a 1997 database.

Question: Why are there only 18 companies in the database?
Answer: OMB approval would have been required to survey more companies; therefore, distribution was limited. The facilities in the database represented more than twenty percent of the estimated population of facilities in the U.S. for this category.

Question: Weren't questionnaires sent out in some source categories with the generic ICR, which had already been approved by OMB?
Answer: The generic ICR was only used if agreement had been reached with the stakeholders prior to distribution.

Question: Why was all information from site visits not used?
Answer: Facilities that were visited limited the information gathered because the visits were arranged through trade associations and prior agreements precluded gathering all information in some cases. In other cases the information included CBI and was not included in the data base for purposes of determining the floor. The information gathered at the site visits was examined and it was determined that the information would not affect the floor facility results or the number of facilities in the floor.

Question: Will the standard apply only to facilities in SIC codes 2295, 2296, 3052 and 3069?
Answer: The applicability will not be based on SIC codes, it will apply to fabric coating as defined in the rule. Fabric coating will be defined basically as the application of a surface coating film to a textile substrate.

Question: Will extrusion be included in the coating definition?
Answer: Extrusion processes we know of have little or no HAP. We are considering whether to allow averaging of extrusion solids in the compliance determination for the emission rate limit.

Question: Extrusion is the only process at my facility that would be covered by this NESHAP. Will there be a de minimus?
Answer: No de minimus is planned for the applicability at this point. The extrusion process would be covered by the NESHAP only if it emits HAPs.

**Floor for Overall Control Efficiency (Page 8)**

As was the case with the above topic, because discussion of the Floor for Overall Control Efficiency consisted of questions from stakeholders with responses from EPA, a question and answer format also is used to summarize the discussion of this topic as follows.

Question: Given that performance tests are generally under ideal conditions, are these tests representative of what's out there?

Answer: The MACT floor is based on what is being achieved by the best facilities. It should be noted that the 97 and 98 percent overall control efficiencies are based on control of application and drying/curing and does not include ancillary operations such as mixing and cleaning.

Question: There are facilities that operate without add-on controls. Has a study of control costs been done?

Answer: Yes, the costs of installing controls and upgrading existing systems are being evaluated.

Question: In the case of thread bonding, some processes are controlled while processes that use materials without VOC are not controlled. Are uncontrolled processes such as thread bonding processes that use non-VOC chlorinated compounds grouped with other processes?

Answer: Yes, because the controls are the same, i.e., thermal oxidation with scrubbing or carbon adsorption. Control of chlorinated compounds by these add-on controls has been demonstrated over the past 30 years at similar sources.

Question: Control of chlorinated compounds is not in the fabric coating database; shouldn't 98 percent control of chlorinated compounds be documented in the database to say that it is achievable?

Answer: The achievability of 98 percent control can be documented by reference to other documents demonstrating control of chlorinated compounds. The same control technologies, thermal oxidation and carbon adsorption, are used on the same types of sources, i.e. thread bonding. When using thermal oxidation with a chlorinated compound, a scrubber is needed to neutralize and remove the acid gases. The addition of the scrubber for one type of control is all that differentiates the control of chlorinated compounds from other HAPs in this source category, and the demonstration of this technology on similar gas streams is well documented.

Question: Are total enclosures used in all industry groups?

Answer: The use of total enclosures has been demonstrated in many industries with similar application processes, whether they are used in all industry groups is not a valid point. Total enclosures are used in each of the fabric coating MACT floor facilities.

Question: Is the economic impact being evaluated of going beyond the floor?

Answer: No, the emission limits will be based on the floor.

Question: Can you identify the floor facilities?

Answer: Our current policy is to not identify the floor facilities. The refined facility data from the MACT database including the floor facilities are presented in Table 1 of the attachment.

Question: Isn't it a big leap from the 95 percent currently required by rules based on the CTG to 97 percent?

Answer: We are limited by guidance and the statute on how to calculate the floor; within the guidance the MACT floor has been calculated in different ways, each yielding the 97 percent OCE for existing sources.

Question: The MACT floor is based on three facilities; is that representative of all of the fabric coating that is out there?

Answer: We feel the database is representative. The database contains a variety of applicators, a variety of end products, and a range of company sizes.

Question: What compliance demonstration will be required?

Answer: Control equipment will require performance testing to demonstrate compliance with the facility OCE or the emission rate limit. For the emission rate limit, the compliance demonstration is typically based on the average monthly emission rate. If there is seasonal variation in HAP emissions in the industry, a 12-month rolling average compliance period can be specified. In the case of miscellaneous metal parts, the industry submitted data demonstrating seasonal variation in HAP emissions. It should be noted that if a facility has multiple fabric coating lines, compliance demonstration is on a facility basis, allowing averaging across the fabric coating lines in the facility.

Question: Aren't the data in the database used to derive the emission rate limit annual data?

Answer: Yes, but EPA enforcement wants the compliance demonstration to be based on monthly average data.

Question: Doesn't this just affect the compliance demonstration during the first year?

Answer: Yes, but EPA enforcement prefers to see compliance demonstrated on a monthly basis and does not want a facility to potentially operate out of compliance for the entire first year the standard is in effect.

Question: Does the determination of pounds of HAP emitted include cure HAP?

Answer: We have no cure HAP data now, the data analysis is based on HAP that is in the coating material as applied. It is not anticipated that cure HAPs will be included in the compliance demonstration, however this is based on an absence of data.

Question: What about waste shipped offsite?

Answer: In performing mass balance calculations, materials that have been shipped offsite can be deducted as long as there is supporting documentation, such as the RCRA waste manifest.

Question: What kind of work practices are being considered?

Answer: All that is being considered now are work practices such as covers on mixing tanks and containers. There will probably be no requirements for venting storage tanks to control devices.

Question: If the coating is mixed offsite, would that company be subject to this MACT?
Answer: A company that produces coatings might be subject to another MACT.

Question: Will there be specific standards for thread bonding using methylene chloride?
Answer: We will look at the cost of controlling methylene chloride. It is more expensive to control chlorinated HAP with oxidation than non-chlorinated HAP. Cost is not a factor in the MACT floor determination; however, we must evaluate the impact on small business.

Question: Will the control of methylene chloride emissions be considered differently?
Answer: We don't have information available to warrant separating thread bonding. Thread bonding is presently covered by the NSPS along with other fabric coating processes and it is included in this NESHAP.

Question: Has there been consideration of subcategorization within fabric coating?
Answer: We have looked at subcategorization and see no need for it based on emissions characteristics and the types of controls being used.

Question: Can facility SIC codes and types of controls being used be added to the table showing the fabric coating average facility OCE?
Answer: Yes, SIC codes and types of controls will be added.

Question: Would it be possible to require a lower OCE for carbon adsorbers because of the solvent recovery? One hundred percent capture cannot be achieved in tennis ball manufacturing because of the physical configuration. A flat product is not being coated; tennis balls are being coated. The standard might bring in other industries that are coating products that are not flat, such as basketballs.
Answer: Adsorbers can achieve 97 percent recovery, so we cannot require lower OCE based on performance of the add-on control device. However, we do need to know if there are other facilities that do not do web coating of fabric, possibly from trade associations that are participating.

Question: Is there the possibility of planks in this subcategory?
Answer: We haven't seen differences in emissions and the types of controls used to support planks.

Question: What happens in the case of overlapping standards applying to the same equipment?
Answer: We are trying to avoid having different standards apply to the same equipment, e.g., in

the paper and other web coating proposal, if any paper and other web substrate is coated, only the paper and other web standard applies.

Question: What about the coating of tire cord and other cord on the same equipment?
Answer: Applicability might be based on predominant use.

Question: How will the application of two different coatings subject to different MACTs to the same substrate be handled?
Answer: We are aware of cases where different coatings subject to different MACTs are applied in different parts of the plant. Coatings applied on the same line should be subject to one MACT. Stakeholders should make us aware of situations where different coatings applied to the same substrate are subject to different MACTs.

Question: Paperwork is becoming increasingly burdensome with different MACTs with different requirements. Can the paperwork be simplified?
Answer: The coatings group at EPA has identified a lot of overlap issues between coating standards and is trying to simplify paperwork.

Question: Is a startup, shutdown, and malfunction plan required for a control device?
Answer: Yes.

Question: What is the schedule for this rulemaking?
Answer: Drafting of the standard will begin next month with proposal scheduled for next Spring. We could possibly have another conference call in January.

Question: What will the timing be for language on the definitions?
Answer: The specific language in the rulemaking package, such as in definitions, is likely to change during the internal review process. We will try to keep stakeholders informed, but will not post draft language on the EPA web page.

## IV. Action Items

- EPA will contact John Eapen of A&E concerning a potential site visit to collect information on the new thermal oxidizer that has been installed to control VOC emissions from some of the thread bonding lines at the Mount Holly Plant and to collect information on methylene chloride emissions from thread bonding processes.

- Stakeholders have been encouraged to submit data to EPA concerning the seasonal nature of HAP emissions from fabric coating processes and also information that can be used in defining fabric coating versus fabric finishing.

- EPA will contact Ken Mushet of Penn Racquet Sports to collect information about the unique tennis ball manufacturing process.

- Stakeholders have been requested by EPA to submit information concerning the application of different coatings covered by different MACT standards to the same substrate on the same line or in the same facility.

- Facility SIC codes and the types of add-on emission controls used have been added to Table 1 on page 9 of the attached briefing document.

**List of Participants in November 30, 2000 Fabric Coating Teleconference**

| **Participant** | **Affiliation** |
|---|---|
| Vinson Hellwig | EPA/OAQPS/ESD/CCPG |
| Ken Mushet | Penn Racquet Sports |
| Paul Mathai | EPA/OPPT |
| Julie Fleming | ATMI |
| Tracey Norberg | RMA |
| David Dunn | ERM-Southeast, Inc. |
| John Eapen | American & Efird, Inc. |
| Michael Hedberg | The Goodyear Tire & Rubber Company |
| Mike Willwerth | Majilite Manufacturing, Inc. |
| Andy Shimko | Seaman Corporation |
| Bill Robart | Uretek, Inc. |
| Veronica Kress | The Gates Rubber Company |
| Mike Bell | Coats American Company |
| Hyte Johnson | BF Goodrich Safety Systems |
| Venkata Panchakarla | Florida DEP |
| David Woodring | The Goodyear Tire & Rubber Company |
| Guy Lowe | Coats American Company |
| Tony McManus | Mooresville Office - NCDEHNR |
| Nathan Cobb | Athol Corporation |

| | |
|---|---|
| Steve York | Research Triangle Institute |
| Alton Peters | Research Triangle Institute |

ATTACHMENT

# PRELIMINARY MACT FLOOR DETERMINATION: FABRIC COATING, PRINTING, AND DYEING MACT – FABRIC COATING SUBCATEGORY

## For

## Stakeholder Teleconference
## November 30, 2000

**EMISSION STANDARDS DIVISION**
**OFFICE OF AIR QUALITY PLANNING AND STANDARDS**
**U.S. ENVIRONMENTAL PROTECTION AGENCY**
**RESEARCH TRIANGLE PARK, N.C.**

**[Revised February 16, 2001]**

# FABRIC COATING MACT SURVEY

- EPA developed two lists of companies with fabric coating operations through the 1996 toxic release inventory (TRI) with supplemental information about number of employees, products, and whether P2 efforts had been undertaken from literature sources and stakeholder contacts

- Two different survey questionnaires were sent, each to 9 companies, in the summer of 1998

  - One group to companies that coat industrial fabrics (SIC code 2295)
  - One group to companies that perform cord treating and surface coating operations for rubber-coated fabric (SIC codes 2296, 3052, and 3069)

- Responses were received from 22 facilities; information from the 22 facilities constitutes the MACT floor database

- Examples of products manufactured from fabric coated by the facilities in the database include:

  - rubber belts and hoses for automotive use
  - coated fabrics for use as tarps, hot air balloons, awnings, and outer wear (raincoats)
  - commercial aircraft evacuation slides
  - geomembranes
  - speaker diaphragm surrounds
  - luggage
  - tennis and racquet balls

# HAP EMISSIONS FROM FABRIC COATING OPERATIONS

- Total HAP emissions for the 21 facilities in the MACT database reporting actual facility HAP emissions were 1242 tons in 1997

- The distribution of HAP emissions by HAP was as follows:

  - Toluene 47%
  - MEK 34%
  - Hexane 8%
  - Dimethyl formamide 3%
  - All Others 8%

- The distribution of HAP emissions by unit operation was as follows:

  - Coating application/curing 95.7%
  - Ancillary operations including storage, mixing, and equipment cleaning 4.3%

## SUMMARY OF CONTROL DEVICE USE BY FACILITIES IN FABRIC COATING INDUSTRY MACT DATABASE

- 14 facilities have control devices installed

- There are 29 controlled coating lines

- Of the 29 controlled coating lines, the number controlled by type of control device include:

  - Thermal oxidizer 16
  - Catalytic oxidizer 3
  - Carbon adsorber 9
  - Electrostatic precipitator 1

## REPRESENTATIVENESS OF CONTROL DEVICE PERFORMANCE DATA

- Control efficiency determined by testing generally done when control device is new, possibly with high inlet HAP loadings

- Maximum destruction efficiencies are only achieved at high inlet loadings

- Reported inlet loading by fabric coating facilities ranged from less than 100 ppmv to 8,500 ppmv

- Performance tests are relatively short duration (approximately one hour)

- Destruction efficiency may degrade over time, e.g., because of leaking heat exchangers or leaking isolation valves

- A literature review indicates the following:

  - 99 percent destruction is achievable under ideal conditions, lower efficiencies are typical under normal operating conditions
  - Alternation between beds in a regenerative thermal oxidizer results in destruction efficiencies generally below 99 percent
  - An EPA study concludes that 98 percent VOC reduction or 20 ppmv by compound exit concentration is the highest control level achievable for all new incinerators

- A telephone survey of vendors indicates that 98 percent efficiency is the routine guarantee for regenerative or recuperative thermal oxidizers in the first year of operation

## QUALITY OF CAPTURE EFFICIENCY DATA

- Data validation of the basis of high capture efficiency claims indicated the following:

  - Of the 6 facilities reported to be operating with permanent total enclosures (PTEs), enclosures on lines in 3 facilities had been properly verified as PTEs using Method 204
  - Only the data from the 3 facilities determining capture efficiency using Method 204 were used in the MACT floor database

## MACT FLOOR DETERMINATION

- All 22 facilities (including facilities with CBI responses) in the fabric coating MACT database are major or synthetic minor facilities

- The set of 22 facilities was used to identify the top performing 12 percent of facilities for coating line control

- Data from the CBI facilities are not presented herein; the information in the CBI files was examined to determine that none of the CBI facilities are MACT floor facilities

- Some facilities may chose to limit HAP emissions through a combination of low-HAP coatings and add-on controls or through the use of waterborne coatings

- To allow for these situations, EPA intends to provide an emission rate limit in addition to the overall control efficiency (OCE) limit

## FLOOR FOR OVERALL CONTROL EFFICIENCY

- The coating line OCE was calculated as a facility-wide average for every facility with sufficient, non-CBI information in the database

- The calculation procedure was as follows:

  - Calculate an arithmetic average facility capture efficiency (arithmetic average for all coating lines)
  - Calculate an arithmetic average facility destruction (for facilities with thermal oxidizers) or recovery (for facilities with carbon adsorbers) efficiency (arithmetic average for all control devices receiving HAP emissions from coating lines in the facility)
  - Calculate average facility OCE (product of average facility capture efficiency and average facility destruction or recovery efficiency)

- Table 1 lists all facilities in the MACT database with sufficient non-CBI information to calculate average facility OCE

- Facilities with unsubstantiated capture efficiencies were removed from the MACT floor determination, resulting in the removal of 2 facilities, which were replaced with the next best performing facilities

- Reported OCE for the top 12 percent ranged from 93.1 to 99.3 percent and averaged 98.1 percent

- Because of concerns with the representativeness of control device performance data, the destruction efficiencies of the 2 facilities using thermal oxidizers in the MACT floor were adjusted to 98 percent

- The MACT floor for existing sources was determined to be 97 percent facility-wide coating line OCE

- A 98 percent facility-wide coating line OCE was determined to be the MACT floor for new sources; no technology was identified that could achieve a better OCE than the use of a permanent total enclosure to capture HAP emissions from coating application stations and a thermal oxidizer to destroy HAP emissions from application and the curing oven

## Table 1. Fabric Coating Average Facility OCE [a]

| Facility Rank | Facility SIC Code | Type of Add-on Control Device [b] | Facility OCE (%) [c] | Capture Efficiency (%) [d] | Control Device Efficiency (%) [d] |
|---|---|---|---|---|---|
| 1 | 2295 | RTO | 99.3 | 100.0 | 99.3 |
| 2 | 3052 | TO | 99.0 | 100.0 | 99.0 |
| 3 | NA | TO | 98.9 | 100.0 | 98.9 |
| 4 | 2295 | RTO | 97.2 | 100.0 | 97.2 |
| 5 | 2295, 3069 | CA | 96.0 | 100.0 | 96.0 |
| 6 | 2295 | TO | 95.3 | 99.0 | 96.3 |
| 7 | 3949 | CA | 93.1 | 98.0 | 95.0 |
| 8 | 2295 | TO | 91.9 | 93.8 | 98.0 |
| 9 | 3052 | CA | 90.8 | 99.8 | 91.0 |
| 10 | 2295, 3052 | CO | NA [e] | NA | 94.0 |
| 11 | 2295 | CO | NA | NA | 90.0 |
| 12 | 2295 | NC [f] | NC | NC | NC |
| 13 | 2295 | NC | NC | NC | NC |
| 14 | 2295 | NC | NC | NC | NC |
| 15 | 3052 | NC | NC | NC | NC |
| 16 | 3069 | NC | NC | NC | NC |
| 17 | 3052 | NC | NC | NC | NC |
| 18 | CBI | CBI [g] | CBI | CBI | CBI |
| 19 | CBI | CBI | CBI | CBI | CBI |
| 20 | CBI | CBI | CBI | CBI | CBI |
| 21 | CBI | CBI | CBI | CBI | CBI |
| 22 | CBI | CBI | CBI | CBI | CBI |

a Includes average facility OCE for all facilities in the MACT database with sufficient non-CBI information to calculate average facility OCE. For facilities without an average facility OCE, the reason the OCE was not calculated is noted.
b RTO = Regenerative Thermal Oxidizer; TO = Thermal Oxidizer; CA = Carbon Adsorber; CO = Catalytic Oxidizer.
c Product of average facility capture and control efficiencies as calculated from data reported by facility.
d Arithmetic average of data reported by facility if different efficiencies reported for different lines.
e NA = Not Available
f NC = No Control

g CBI = Confidential Business Information

NOTE: The 3 MACT floor facilities are highlighted.

## FLOOR FOR EMISSION RATE

- Data from the fabric coating MACT database were used to calculate alternative facility emission rate limits for existing and new sources

- The alternative facility HAP emission rate was calculated based on applying the MACT floor OCE to a pre-controlled facility HAP emission rate representative for this industry

- The calculation procedure was as follows:

  - Assuming all of the HAP in coatings is emitted, calculate average pre-controlled facility HAP emission rate in terms of pounds of HAP per pound of solids from reported HAP-containing coating materials used (including thinning solvents)
  - Calculate average facility controlled emission rate by multiplying the pre-controlled facility HAP emission rate by one minus the MACT floor facility-wide coating line OCE

- Table 2 lists all facilities in the fabric coating MACT database with sufficient information to calculate the average pre-controlled facility emission rate of 4.16 pounds of HAP emitted per pound of solids

- The alternative emission rate limit for existing sources was determined to be 0.12 pounds of HAP emitted per pound of solids

- The alternative emission rate limit for new sources was determined to be 0.08 pounds of HAP emitted per pound of solids

**Table 2. Fabric Coating Facility Average Emission Rate [1]**

| Facility Number | Total Pounds of HAP in Coating Materials [2] | Total Pounds of Solids in Coating Materials [2] | Lbs of HAP/ Lbs of Solids [3] | Emission Rate at 97 % Facility OCE | Emission Rate at 98 % Facility OCE |
|---|---|---|---|---|---|
| 1 | 594,933 | 171,733 | 3.46 | 0.10 | 0.07 |
| 2 | 71,078 | 11,875 | 5.99 | 0.18 | 0.12 |
| 3 | 626,980 | 126,370 | 4.96 | 0.15 | 0.10 |
| 4 | 643,217 | 111,558 | 5.77 | 0.17 | 0.12 |
| 5 | 452,780 | 113,200 | 4.00 | 0.12 | 0.08 |
| 6 | 894,152 | 251,847 | 3.55 | 0.11 | 0.07 |
| 7 | 764,855 | 340,521 | 2.25 | 0.07 | 0.05 |
| 8 | 848,199 | 265,326 | 3.20 | 0.10 | 0.06 |
| 9 | 16,043 | 6,509 | 2.46 | 0.07 | 0.05 |
| 10 | 34,801 | 8,548 | 4.07 | 0.12 | 0.08 |
| 11 | CBI | CBI | CBI | CBI | CBI |
| 12 | CBI | CBI | CBI | CBI | CBI |
| 13 | CBI | CBI | CBI | CBI | CBI |
| 14 | CBI | CBI | CBI | CBI | CBI |
| | | | | | |
| AVG. | | | 4.16 | 0.12 | 0.08 |

1 Lists all facilities in the MACT database with sufficient information to calculate average facility emission rate in terms of pounds of HAP emitted per pounds of solids applied.

2 Calculated from coating/coating component and thinning solvent materials reported by facility.

3 Calculated by dividing total pounds of HAP (including thinning solvents) in coating materials by total pounds of solids in coating materials.