

Frequently Asked Questions
About the
Reinforced Plastic Composites Production NESHAP
40 CFR 63, Subpart WWW

May 16, 2006

NOTICE

THIS DOCUMENT IS NOT INTENDED, NOR CAN IT BE RELIED UPON, TO CREATE ANY RIGHTS ENFORCEABLE BY ANY PARTY IN LITIGATION WITH THE UNITED STATES. The statements in this document are intended solely as guidance to aid you in complying with the National Emissions Standards for Hazardous Air Pollutants (NESHAP): Reinforced Plastic Composites Production Rule (40 CFR Part 63; OAR-2003-0003; FRL-7957-7, RIN 2060-AM233, signed on August 16, 2005). The final rule (as amended) and other supporting documents are available online at:
<http://www.epa.gov/ttn/atw/rpc/rpcpg.html>.

While the guidance contained in this document may assist you in applying regulatory requirements, the guidance is not a substitute for those legal requirements; nor is it a regulation itself. Thus it does not impose any legally-binding requirements on any party, including EPA, States, or the regulated community. In any civil or administrative action for a violation of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Reinforced Plastic Composites Production Rule, the content of this guide may be considered in determining the reasonableness or appropriateness of proposed fines, penalties or damages. EPA may decide to revise this guide without public notice to reflect changes in EPA's approach to implementing the Revised National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Reinforced Plastic Composites Production Rule or to clarify and update text. To determine whether EPA has revised this guide and/or obtain copies, please check the following website:
<http://www.epa.gov/ttn/atw/rpc/rpcpg.html>.

TABLE OF CONTENTS

Chapter 1: Introduction	1-1
Chapter 2: Questions about Applicability	2-1
Q2.1 Enforceable HAP limit below major source threshold	2-1
Q2.2 Actual emissions versus potential emissions	2-1
Q2.3 Emissions from polymer casting.....	2-1
Q2.4 Specific HAP emissions only.....	2-1
Q2.5 No styrene used.....	2-2
Q2.6 Low-emitting operations	2-2
Q2.7 Exemption for less than 1.2 tpy resin/gelcoat.....	2-2
Q2.8 Styrene content.....	2-3
Q2.9 Thermoset resins	2-3
Q2.10 Thermoset resins – heated cure	2-3
Q2.11 Operation using body filler	2-3
Q2.12 Manufacturing resins.....	2-4

Chapter 3: Questions about Emission Limits, Emission Factors, and Emission

Reduction Requirements	3-1
Q3.1 Units for emission limits	3-1
Q3.2 Limits for corrosion resistant versus non-corrosion resistant	3-1
Q3.3 Styrene only versus all HAP	3-1
Q3.4 Alpha-methyl styrene.....	3-2
Q3.5 Emission factors for MMA	3-2
Q3.6 Emission factor for polymer casting	3-2
Q3.7 Compliant HAP content	3-2
Q3.8 New facilities manufacturing large parts	3-3
Q3.9 100 tpy threshold.....	3-3
Q3.10 Equation for laminate sheets	3-4
Q3.11 Equations for centrifugal casting	3-4

Q3.12 Requirements for vacuum infusion molding.....	3-4
Chapter 4: Questions about Compliance Requirements.....	4-1
Q4.1 Boat manufacturing and RPC	4-1
Q4.2 Changing compliance options	4-2
Chapter 5: Questions about Recordkeeping, Reporting, and Notification Requirements.....	5-1
Q5.1 Requirements for exempt low-use facilities.....	5-1
Q5.2 Certified statement for work practice standards	5-1
Q5.3 Semi-Annual compliance report for work practice standards.....	5-1
Q5.4 Due date for first compliance report	5-1
Chapter 6: Questions about Other Topics.....	6-1
Q6.1 Emission increase to above major source threshold	6-1
Q6.2 Permitted status of polymer casting facility.....	6-1
Q6.3 Calculating emissions for 100 tpy threshold.....	6-1

Chapter 1

Introduction

National Emission Standards for Hazardous Air Pollutants (NESHAP) for Reinforced Plastic Composites Production were promulgated April 21, 2003, and amended on August 25, 2005. This NESHAP applies to reinforced plastic composites production operations located at major sources of emissions of hazardous air pollutants (HAP). A major source is a source that emits or has the potential to emit (considering controls) 10 tons per year or more of any single HAP or 25 tons per year or more of any combination of HAP. For purposes of this NESHAP, reinforced plastic composites production is limited to operations in which reinforced or non-reinforced plastic composites or plastic molding compounds are manufactured using thermoset resins and/or gel coats that contain styrene.

Since this rule was promulgated, EPA has received a number of questions about the rule. This document presents frequent questions and the responses to those questions. When using this document, remember that it does not supercede the final rule. If there seems to be a discrepancy between the rule and this document, the rule has final say. Additional information including a small entity compliance guide (whose information would be applicable to any size facility), applicability flowchart, and frequently asked questions are available on EPA's Air Toxics Website, Rule and Implementation Information for Reinforced Plastic Composites Production at <http://www.epa.gov/ttn/atw/rpc/rpcpg.html>.

CHAPTER 2

QUESTIONS ABOUT APPLICABILITY

Q2.1 If a source accepts an enforceable HAP limit below the major source threshold, is the source exempt from the rule?

A source with a federally enforceable limit below the major source threshold is exempt from this rule. Sources must have these limits in place before the first significant compliance date for this NESHAP. This date is April 21, 2006 for existing sources and start-up for new sources. A source is a major source if it emits or has the potential to emit (considering controls) 10 tons per year or more of any single HAP or 25 tons per year or more of any combination of HAP.

Q2.2 My actual emissions are less than 10 tpy for any individual HAP and less than 25 tpy for total HAP, but my facility has the potential to exceed 10 tpy for styrene. How does this affect my applicability?

Major source determination is based on potential to emit. Unless your facility takes federally enforceable permit limits prior to April 21, 2006 (or startup for new sources), your facility is a major source and is subject to this rule if the other applicability requirements are met.

Q2.3 Do I need to include emissions from polymer casting in determining the total HAP emissions and applicability of this rule?

Yes. The major source determination is based on total HAP emissions from the entire source, not just emissions from regulated operations.

Q2.4 Does the rule only apply to sources that result in styrene or methyl methacrylate emissions?

The applicability is not stated in quite that way. The rule only applies to facilities that use thermoset resins and/or gelcoats that contain styrene in the reinforced plastic composites production. If a facility does not emit styrene, it is not likely to be using a

resin or gelcoat containing styrene, and if this is the case, it would not be subject to this rule.

Q2.5 Does the rule apply to a facility if there is no styrene in the resins/gelcoats used to make a product?

In this case, the rule does not apply. As noted in §63.5785(a), reinforced plastic composites production is limited to operations using thermoset resins and/or gelcoats that contain styrene. If the resin or gelcoat used does not have styrene, the operation is not subject to this rule. Thus, for example, a facility producing reinforced plastic composites using resins and gelcoats that contain MMA but no styrene is not covered by this rule.

Q2.6 Is there a “*de minimus*” exemption for low-emitting operations at the major source?

No, there are no “*de minimus*” exemptions for low-emitting operations at a major source. Instead, the rule identifies certain operations that are part of the affected source (§63.5790(b)) and certain operations that are part of the affected source but have no requirements(§63.5790(c)). All operations at a major source that are part of the affected source listed in §63.5790(b) are subject to the requirements of the rule regardless of the quantity of emissions from each individual operation.

There is, however, an exemption based on low resin usage. As noted in §63.5785(d), a facility is not subject to this rule if the reinforced plastic composites operations use less than 1.2 tons per year of thermoset resins and gelcoats that contain styrene combined. Note that this exemption is based only on the total resin/gelcoat use for all reinforced plastic composites operations (do not include other materials such as catalysts and putties) and it cannot be used to exclude individual operations within the affected source.

Q2.7 The rule includes an exemption for sources that use less than 1.2 tons per year of thermoset resins and gelcoats containing styrene. Does this exemption mean that every source that uses more than 1.2 tons per year of such resins/gelcoats for reinforced plastic composites production is subject to the rule?

No, not every source using more than 1.2 tons per year of covered resins is subject to the rule. The rule applies only to major sources of HAP emissions. A source is a major source if it emits or has the potential to emit 10 tpy or more of a single HAP or 25 tpy or more of any combination of HAP. It is possible for a source to use more than 1.2 tons per year of resins/gelcoats containing styrene without being a “major source,” and such a source is not subject to this rule.

Q2.8 Is styrene content considered in the exemption for facilities that use less than 1.2 tons per year of resin/gelcoat?

No, styrene content is not relevant. This exemption is based on the total weight of resins and gelcoats that contain styrene. The HAP content (individual HAP or total HAP) of each resin and/or gelcoat is not a factor in the calculation. Because operations using resins and gelcoats that do not contain any styrene are not subject to this rule, those resins and gelcoats without any styrene would not be included in the calculation.

Q2.9 What is a “thermoset resin”? Does this rule only apply to thermoset resins?

A thermoset resin is a resin that does not become soft or return to a liquid state when it is heated. Only thermoset resins and gelcoats containing styrene are covered by this rule; it does not apply to thermoplastic resins, which become soft or liquid when heated.

Q2.10 This rule applies to “thermoset resins.” Does that mean that I am not covered by the rule unless I am using an external heat source to cure my resin?

No, that interpretation is incorrect. The term “thermoset” is not related to whether the resin is heated during cure. It means that once the resin sets, it does not return to a plastic or liquid state when it is heated.

Q2.11 I have a facility that manufactures recreational vehicles from pre-made fiberglass sidewalls and front ends. The facility is a major source of HAP emissions from painting. A styrene-containing body filler is manually applied to seal a small gap when the parts are assembled. Is this operation subject to the rule?

No, you are not manufacturing reinforced plastic composites. Second, filler putties are not resins or gel coats.

Q2.12 Are manufacturing operations to produce resins subject to this rule?

No, manufacturing of the actual resins is not covered. This rule only covers facilities that use resins to make solid parts, bulk molding compound (BMC), and sheet molding compound (SMC), along with certain associated operations, such as mixing and storage. The rule does not apply to facilities manufacturing the resins used in these operations.

CHAPTER 3

QUESTIONS ABOUT EMISSION LIMITS, EMISSION FACTORS, AND EMISSION REDUCTION REQUIREMENTS

Q3.1 Table 3 lists emissions limits as “lb/ton.” What exactly are the units for those emission limits?

The units for the emission limits are pounds of organic HAP emissions per ton of neat resin (or neat gelcoat) used. Neat resin means the resin as purchased from the supplier, but not including any inert fillers. Neat gelcoat means the gelcoat as purchased from the supplier, but not including any inert fillers.

Q3.2 In Table 3, the open molding emission limit for corrosion-resistant/high-strength filament application is more stringent than the limit for noncorrosion-resistant/high-strength (non-CR/HS) filament application. Were these numbers mistakenly reversed?

The emission limits in Table 3 of 171 lb/ton for filament application of non-CR/HS resins and 188 lb/ton for CR/HS resins are correct. The emission limits are based on the data available at the time that emission limits were determined. The data did not support a more stringent emission limit for non-CR/HS resin filament application.

Q3.3 Do the lb/ton emission limits apply to all HAP or styrene only?

The lb/ton emission limits apply to all organic HAP but does not include inorganic HAP. Styrene is the HAP most commonly emitted from reinforced plastic composites operations, but any other organic HAP emissions must also be counted when determining compliance with the emission limit. Inorganic HAP are not included in the limit and are not addressed in this rule.

To illustrate, if you used 10 tons of resin for a particular operation that emits 500 pounds of styrene and 75 pounds of methyl methacrylate, the emission factor for purposes of determining compliance with the lb/ton emission limit would be calculated as follows:

$$(500 \text{ lb} + 75 \text{ lb})/10 \text{ tons} = 57.5 \text{ lb/ton}$$

Q3.4 Should “alpha-methyl styrene” be included in the total organic HAP percentage when using the equations in Table 1 to estimate emissions?

Only organic chemicals included on the HAP list should be included. Alpha-methyl styrene is not a HAP, so it should not be included. You can find the list of HAP on EPA’s website at www.epa.gov/ttn/atw/188polls.html.

Q3.5 When calculating my emission factors for compliance purposes, do I use different emission factor equations for methyl methacrylate (MMA) versus styrene?

No, you use the same emission factor equations for all organic HAP. Although there is a Unified Emission Factor table that was developed and includes different factors for MMA, that table was not used as the basis for this rule. Instead this rule treats styrene and MMA (and any other organic HAP) the same. You would use the total organic HAP content of the resin to determine the appropriate emission factor using the equations in Table 1 of the rule.

To illustrate, if you are using a non-vapor suppressed resin that contains 30 percent styrene and 5 percent MMA for manual application, the emission factor for this resin is calculated as follows using the total organic HAP content of 35 percent:
 $((0.286 \times 35\%) - 0.0529) \times 2000 = 94.4 \text{ lb organic HAP/ton resin used.}$

When calculating emissions for emissions reports required as part of Title V reporting, you should use whatever equations you believe are the most accurate. In this case, if you have MMA in some of your materials, you should use the MMA equation if it gives a more accurate result..

Q3.6 Is there a Unified Emission Factor for polymer casting?

No, there is no Unified Emission Factor for polymer casting. For purposes of developing the rule, we estimated polymer casting emissions as 2 percent of the available styrene. This is the midpoint of the 1 percent-3 percent in the AP-42 factors. (This emission factor is documented in Chapter 5 of the Background Information Document for the proposed standards.)

Q3.7 If I am building a proposed facility that is expected to emit more than 100 tpy and produce large parts through open molding, do I have to meet the 95 percent reduction requirement or the emission limits in Table 3? I am confused because the heading for Table 3 does not address new facilities emitting more than 100 tpy.

You will have to comply with the limits in Table 3. Although the heading on Table 3 does not specifically address new facilities emitting more than 100 tpy of HAP, §63.5805(d)(2)(i) states “if your new facility manufactures large reinforced plastic composite parts through open molding or pultrusion, the specific open molding and pultrusion operations used to produce large parts are not required to reduce HAP emissions by 95 weight percent, but must meet the emission limits in Table 3”. Note that other operations at the facility are still subject to the 95 percent reduction requirement. Also note that to be excluded from the 95 percent reduction, large parts must meet the specific requirements noted in §63.5805(d)(2)(ii) (open molding) or §63.5805(d)(2)(iii) (pultrusion).

Q3.8 For existing sources, does the 100 tpy threshold for the 95 percent reduction apply to a facility with no centrifugal casting or continuous lamination/casting operations?

No, it does not apply in this situation. An existing facility with HAP emissions greater than 100 tpy but no centrifugal casting or continuous lamination/casting operations is not required to reduce emissions by 95 percent. Instead, the facility must comply with emission limits and work practice standards as applicable.

Q3.9 How is the following process classified so I know which emission factor equation in Table 1 is appropriate: Laminate sheets are being made by using a non-atomized resin dispenser to put resin over pre-cut fiberglass sheets, then several resin-covered fiberglass sheets are put into a laminate press; up to 20 minutes later (depending on thickness), the press is released and the laminate sheets are cut to size.

This is an open molding process with covered cure. The appropriate equations to use from Table 1 are either 1.c.vii (open molding non-atomized mechanical closed-mold

curing with roll out) or 1.c.viii (open molding non-atomized mechanical closed-mold curing without roll out). Use 1.c.vii if a worker rolls out the resin to remove air prior to putting the sheets into the laminate press; otherwise, use 1.c.viii.

Q3.10 I have a centrifugal casting operation where the mold is heated to about 100°F. There is a small hole at one end of the mold, and the other end is open. No air, heated or ambient, is blown through the mold. Which equation from Table 1 do I use: “heated air blown through the molds” or “vented molds, but air vented through the molds is not heated.”

You would use the second equation: “vented molds, but air vented through the molds is not heated.”

Q3.11 What requirements apply to vacuum infusion molding ?

Vacuum infusion molding is considered to be closed molding as long as the resin is enclosed and not exposed to air. It is covered by the rule, but there are no emission limits or work practice requirements for this type of closed molding. Initial notification and compliance status report requirements do apply, as well as requirements for storage and mixing if those operations are also present.

CHAPTER 4

QUESTIONS ABOUT COMPLIANCE REQUIREMENTS

Q4.1 How do I determine compliance if I am subject to the Boat Manufacturing NESHAP and the Reinforced Plastic Composites (RPC) NESHAP?

The follow four steps should be followed to determine compliance for a facility that is subject to both rules.

First, determine if the facility meets the applicability criteria of each rule. The most likely scenario for a facility to be subject to both rules is a boat manufacturing facility that starts making some type of non-boat part, such as an engine cover for some type of machinery. In this scenario, the facility becomes subject to both rules.

Second, determine the applicability of RPC's thresholds. For determining the applicability of RPC thresholds such as the 100 tpy threshold for 95 percent reduction, only non-boat operations are considered. (Note that for determining major source status, all emissions from the source are considered together.)

Third, determine the emission limits that apply to the RPC operation(s)

Fourth, if desired, compare those limits to the limits in the Boat rule. In general, the Boat Manufacturing NESHAP is more restrictive than the Reinforced Plastic Composites NESHAP. If complying with the limits imposed by the Boat rule results in actual emissions being lower than the emissions limits under the RPC rule, the facility can choose to use the limits in the Boat rule for the entire facility, but the facility can also comply separately with the limits in each rule. If complying with the limits in the Boat rule would increase emissions from RPC operations, the facility must comply with the RPC limits for those operations.

Example

A source has a several boat operations and a RPC (non-boat) operation that uses mechanical non-atomized resin application, which has an emission limit of 88 lb/ton under the RPC rule, and white/off-white pigmented gel coat, which has an emission limit of 267 lb/ton under the RPC rule. This facility uses 80 tons of resin and 20 tons of the

gelcoat in the RPC operation. Under the RPC NESHAP, the weighted average emission limit would be calculated as follows:

$$\frac{(88 \text{ lb/ton}) \times (80 \text{ tons}) + (267 \text{ lb/ton}) \times (20 \text{ tons})}{(80 \text{ tons}) + (20 \text{ tons})} = 123.8 \text{ lb/ton}$$

The Boat NESHAP has a HAP limit of 35 percent with nonatomized mechanical resin application, which corresponds to 77 lb/ton (using the UEF equations). The limit for gel coat is 33 percent HAP, which corresponds to 294 lb/ton. The weighted average emission factor under the Boat NESHAP would be calculated as follows:

$$\frac{(77 \text{ lb/ton}) \times (80 \text{ tons}) + (294 \text{ lb/ton}) \times (20 \text{ tons})}{(80 \text{ tons}) + (20 \text{ tons})} = 120 \text{ lb/ton}$$

In this scenario, complying with the Boat NESHAP, which has a limit of 120 lb/ton, results in actual emissions being lower than the emissions limit under the RPC NESHAP (123 lb/ton). Therefore, the facility can choose to comply with the Boat NESHAP for the RPC operations in this example.

Q4.2 Section 63.5810 says “When you change to an option based on a 12-month rolling average, you must base the average on the previous 12 months of data calculated using the compliance option you are currently using...” Does “the compliance option you are currently using” mean the new compliance option or the old one?

It means the new compliance option that you just changed to.

CHAPTER 5

QUESTIONS ABOUT RECORDKEEPING, REPORTING, AND NOTIFICATION REQUIREMENTS

Q5.1 Does a major source that is exempt from the rule due to low use of resins and gelcoats containing styrene (less than 1.2 tons per year) have to comply with any recordkeeping or notification requirements?

No, a major source that is exempt under the provision for sources using less than 1.2 tpy of resins and gelcoats containing styrene does not have to submit an initial notification or comply with any recordkeeping, reporting, or notification requirements of the rule. However, it would be prudent for such a facility to maintain records documenting that the total resin and gelcoat use is less than 1.2 tons per year.

Q5.2 Section 63.5915(d) requires facilities to keep a certified statement that the facility is in compliance with the work practice requirements in Table 4. Does this certified statement have to be renewed on a periodic basis?

No, the statement does not need to be renewed. It can be kept on file for as long as it is accurate. Facilities are still required to submit semi-annual compliance reports indicating that there were no deviations.

Q5.3 Do semi-annual compliance reports have to be submitted if compliance with work practice standards (Table 4) and keeping a certified statement (§63.5915(d)) are the only applicable requirements?

Yes, a semi-annual compliance report indicating no deviation is required.

Q5.4 When does the first semiannual compliance report have to be submitted?

The first semiannual compliance report covers the period beginning on the compliance date for a facility and ending on June 30 or December 31, whichever is the first date following the end of the calendar half in which the compliance date occurs. What is meant by this language is that you count for six months, and then go forward to June 30 or December 31, whichever is closer. For a compliance period ending June 30,

the report must be postmarked or delivered by July 31. For a compliance period ending December 31, the report must be postmarked or delivered by January 31.

For example, if an existing major source has a compliance date of April 21, 2006, you determine the first compliance period by counting six months, which takes you to October 21, 2006. Then you go forward to December 31, 2006. So the entire reporting period is April 21, 2006 until December 31, 2006, and the first compliance report is due by January 31, 2007.

CHAPTER 6

QUESTIONS ABOUT OTHER TOPICS

Q6.1 If an existing area source adds new RPC processes that increase emissions above the major source threshold, would the source be regulated as an existing source or a new source?

The source would be regulated as an existing source.

Q6.2 How will this rule affect the permitted status of a polymer casting facility that was using the AP-42 emission factor for non-vapor suppressed marble casting (AP-42 Table 4.4.2)?

The rule will not have an impact on the permit status for such a facility. Although polymer casting is covered by this rule, the rule does not have emission limits or work practice standards. Consequently, it does not have equations for calculating emission factors for polymer casting. In developing this rule, we estimated polymer casting emissions as 2 percent of the available styrene. This is the midpoint of the 1 percent to 3 percent in the AP-42 emission factors.

Q6.3 When calculating a facility's emissions for the 100 tpy threshold, do I base the calculation on actual emissions or potential emissions? Do I consider the efficiency of an add-on control device?

You calculate emissions using actual hours and actual operating rates, but you do not include emission reductions from add-on control devices in the calculation. For existing sources, the initial calculation must be based on resin and gel coat use in the 12 months prior to April 21, 2003. For new sources prior to start-up, the initial calculation must be based on projected operation for the 12 months subsequent to start-up. Note that for determining major source status, you use potential to emit.