Rubber Tire Manufacturing NESHAP
Summary of Regulatory Requirements

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A. Document Purpose and Frequently Asked Questions

What is the purpose of this document?

The purpose of this document is to summarize the requirements and compliance options of the Rubber Tire Manufacturing National Emission Standards for Hazardous Air Pollutants [NESHAP] in tabular or graphical form to help facilities, permitting agencies, and other interested parties understand the regulation more easily. This document, however, does not replace the final rule published in the Federal Register. In case of any discrepancies between this document and the final rule, the final rule will apply.

Where can I get a copy of this rule?

The Rubber Tire Manufacturing NESHAP was proposed on October 18, 2000 [65 FR 62413] and the final rule was published in the Federal Register on July 9, 2002 [67 FR 45588]. The rule requirements and other information related to the rule can be found in 40 CFR, part 63, subpart XXXX at http://www.access.gpo.gov/nara/cfr/cfr-retrieve.html#page1 , and on the EPA web site http://www.epa.gov/ttn/atw/tire/tirepg.html .

To what sources does the Rubber Tire Manufacturing NESHAP apply?

The rule applies to existing, new and reconstructed rubber tire manufacturing facilities that are major sources of hazardous air pollutant (HAP) emissions standing alone or are major sources due to collocation with other facilities that emit HAP. We have subcategorized the rubber tire manufacturing source category into the following four subcategories of affected sources:

- Rubber processing
- Tire production
- Tire cord production
- Puncture sealant application.

How is rubber processing regulated under the Rubber Tire Manufacturing NESHAP?

Although Rubber Processing is included in the Rubber Tire Manufacturing NESHAP as an affected subcategory, there are no emission limits or other specific MACT requirements associated with rubber processing affected sources. The General Provision of Part 63 still apply for purposes of notification.

Is tire retreading covered by the rubber tire manufacturing NESHAP?

We evaluated the tire retreading process and its tire building methods, tire building machinery, solvent and cement usage and application, and vulcanizing and curing processes. We did not find any significant differences in the production techniques or in the types of tires being made between new and retread tire operations. Therefore, tire manufacturers who perform retreading and component production (as stand alone or collocated processes) are subject to the Rubber Tire Manufacturing NESHAP to the extent that they use cements and solvents.

Is fabric coating covered by the Rubber Tire Manufacturing NESHAP?

The Fabric Printing, Coating, and Dyeing NESHAP, may address the same cord coating operations as tire manufacturers who own and operate cord-treating facilities that produce tire cord as well as other fabric products, such as belts and hoses. In order to minimize potentially redundant requirements at these types of facilities, the Rubber Tire Manufacturing NESHAP exempts coating activities where the primary product is a web substrate other than tire cord, and the activities are regulated by another NESHAP. In other words, where tire cord is the primary product, the rubber tire manufacturing NESHAP would apply. Where it is not, the other NESHAP would apply. Any facility with potential overlapping applicability would have to determine which NESHAP apply to the facility by the compliance date of the first applicable NESHAP.

Are R&D Facilities covered by the Rubber Tire Manufacturing NESHAP?

The Rubber Tire Manufacturing final rule exempts research and development (R&D) facilities, defined as a facility "whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a *de minimis* manner." (See the Clean Air Act section 112(c)(7)). However, we are not aware of any stand-alone major R&D facilities in the Rubber Tire Manufacturing industry at this time that would benefit from this exclusion.

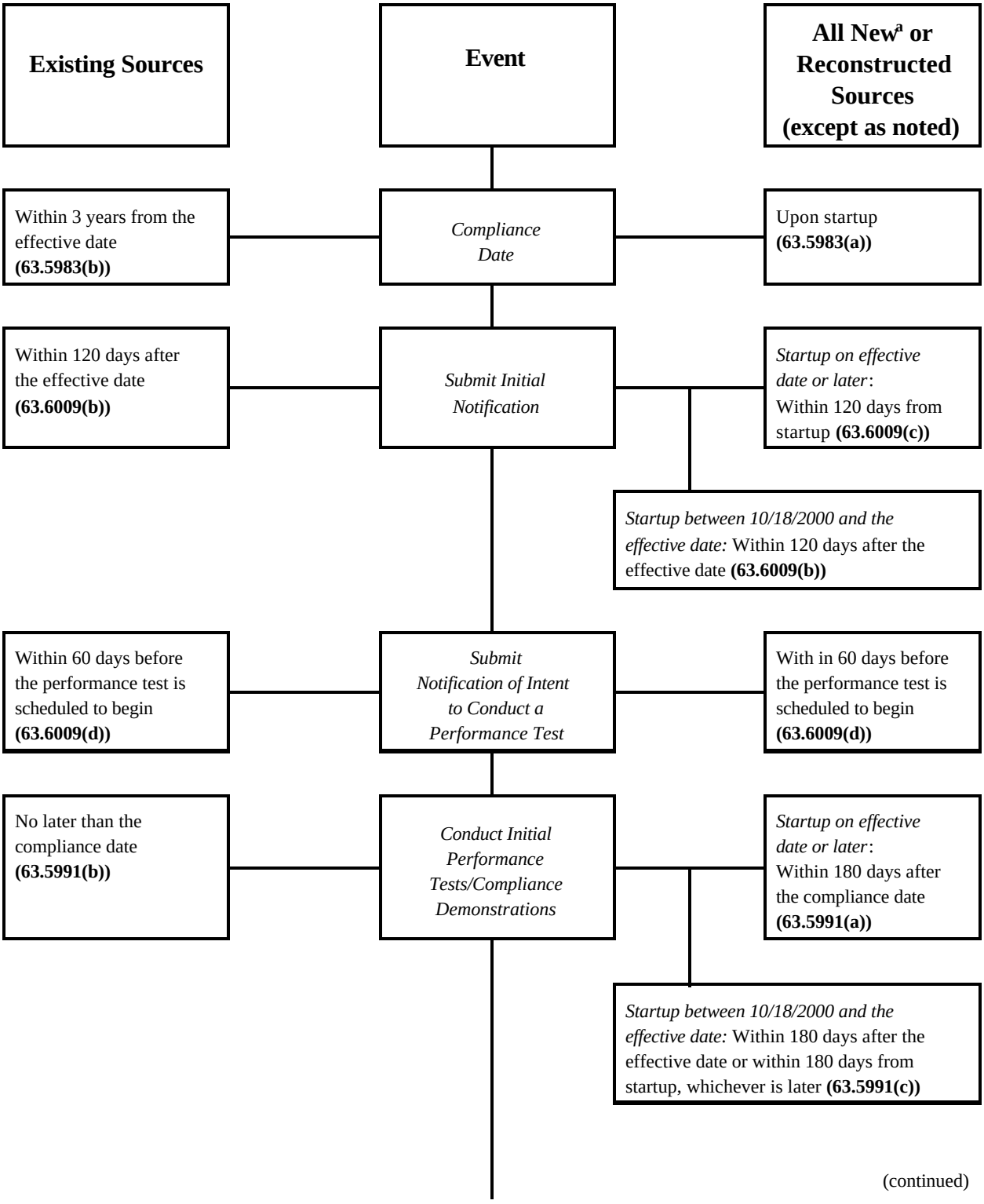
What are the other exclusions to the Rubber Tire Manufacturing NESHAP?

The final rule excludes tire bladders in §63.5981. Tire bladders are not integral components in a tire because they are used in an intermediate production process and are not found in the final product. Their manufacture does not involve the use of cements or solvents. Other components often associated with rubber tires but not integral to the tire, such as wheels, inner tubes, and valve stems, are not components of rubber tires or tire cord and are also not subject to this subpart.

How are "reactive" coatings used in tire cord manufacturing operations regulated in this NESHAP?

Tire cord manufacturers are allowed to account for HAP "losses" resulting from chemical reactions, e.g., curing or post-application reactions. These losses can be calculated based on the conversion rates of the individual coating formulations, chemistry demonstrations, or other demonstrations that are verifiable to the approving agency. The revised value can then be used in your compliance demonstration. The Rubber Tire Manufacturing final rule includes these provisions.

B. Rubber Tire Manufacturing NESHAP Timeline



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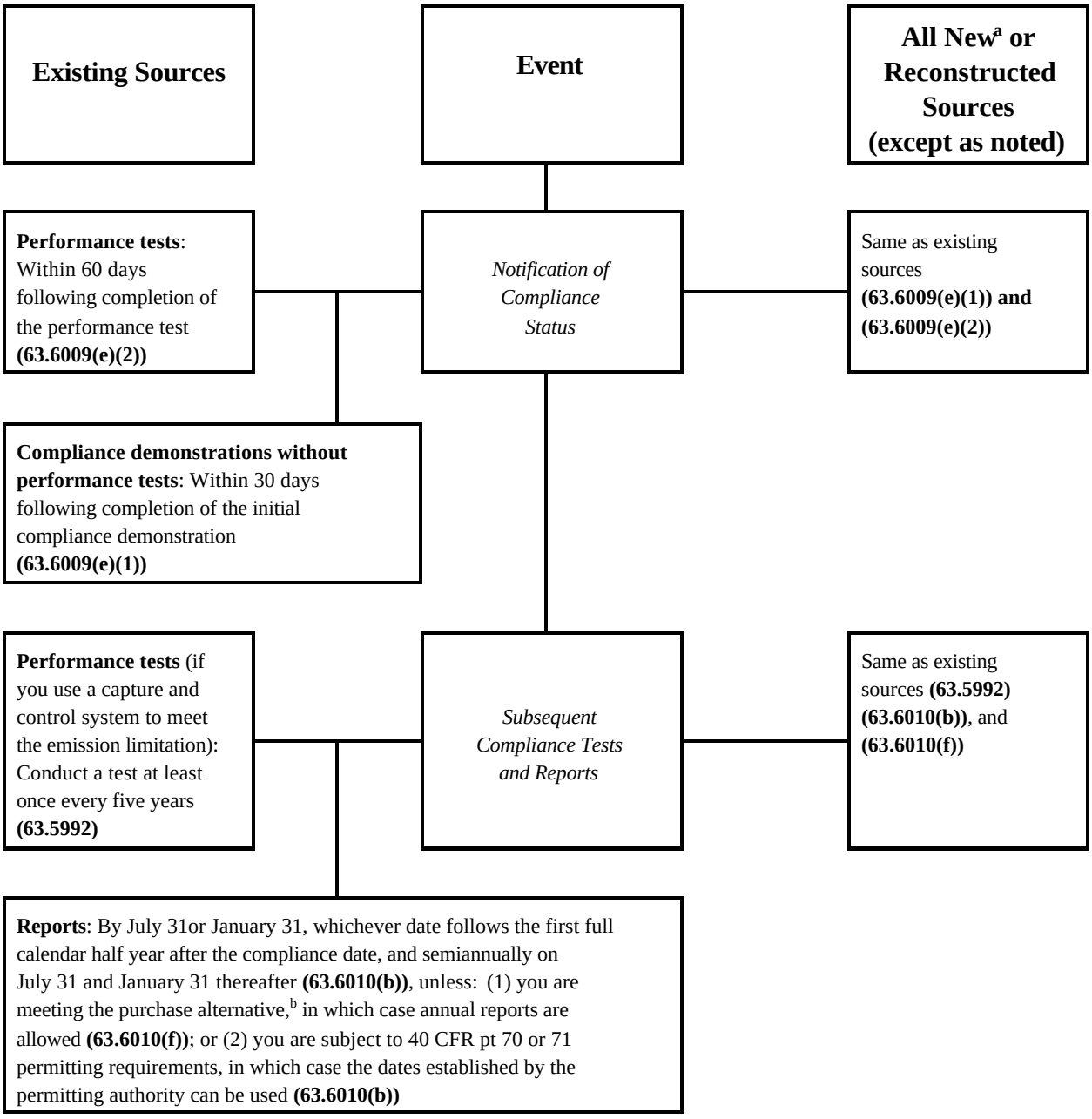


Notes

[a] New affected source: An affected source that begins operation after October 18, 2000.

[b] Purchase alternative: Use only cements and solvents that, as purchased, contain no more HAP than allowed by the applicable emission limits.

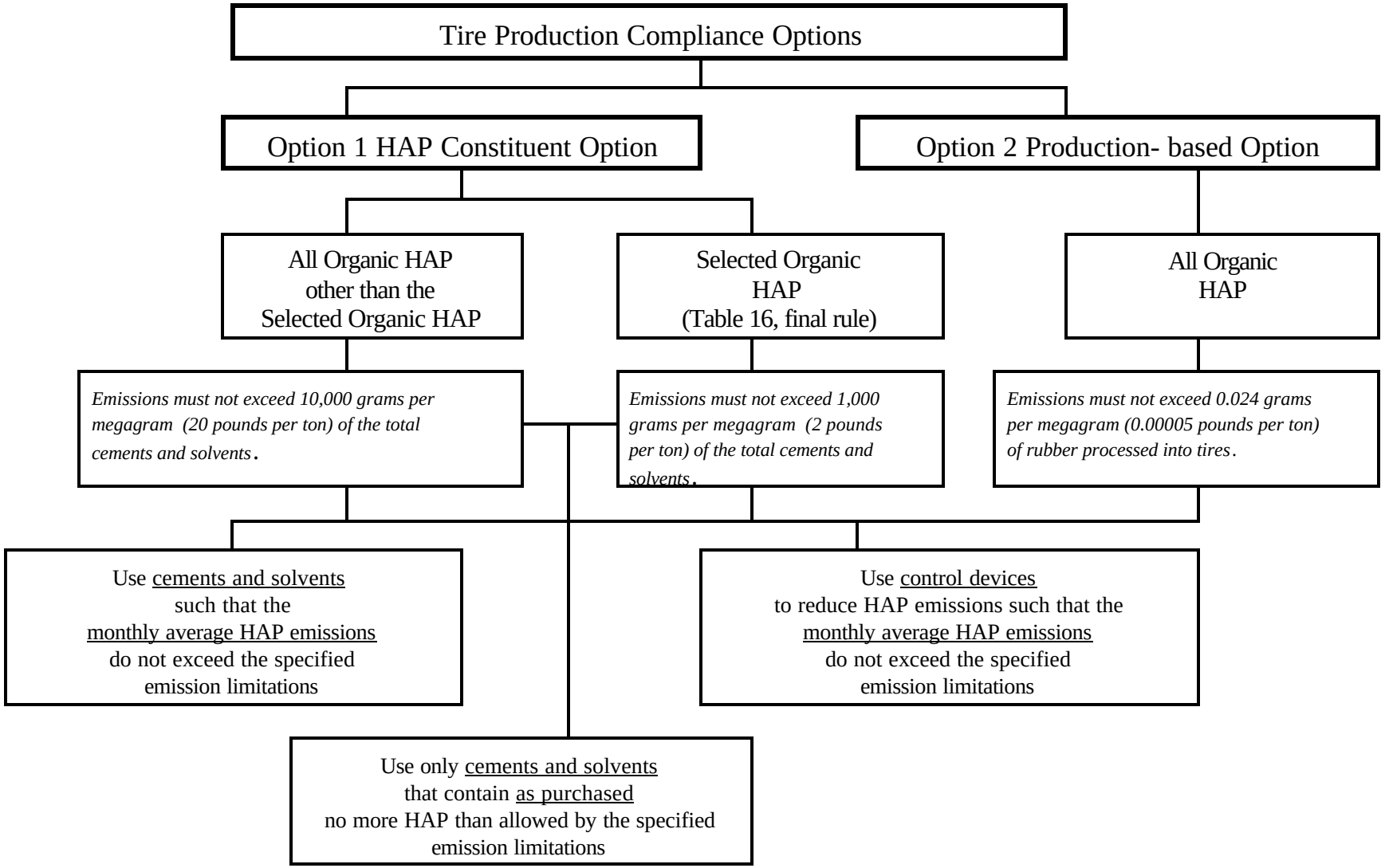
C. Tire Production Affected Sources

This section summarizes the emission limitations and compliance options, regulatory requirements, and compliance demonstration formulas for Tire Production affected sources in the Rubber Tire Manufacturing industry.

C-1. Chart C-1: Tire Production Affected Sources--Emission Limitations and Compliance Options
(***See Figure C-1 for illustration of Chart C-1***)

Affected Source	Pollutant	Limit	Compliance Option
Option 1 - HAP constituent option	Selected organic HAP (See Table 16 of final rule)	Emissions must not exceed 1,000 grams per megagram (2 pounds per ton) of the total cements and solvents	• Use only cements and solvents as purchased that contain no more HAP than allowed by the specified emission limitation, ***or*** • Use cements and solvents such that the monthly average HAP emissions meet the specified emission limitations, ***or*** • Use control devices to reduce HAP emissions such that the monthly average HAP emissions meet the specified emission limitations
	All other organic HAP	Emissions must not exceed 10,000 grams per megagram (20 pounds per ton) of the total cements and solvents	
Option 2 - Production-based option	All organic HAP	Emissions must not exceed 0.024 grams per megagram (0.00005 pounds per ton) of rubber processed into tires	• Use cements and solvents such that the monthly average HAP emissions meet the specified emission limitations, ***or*** • Use control devices to reduce HAP emissions such that the monthly average HAP emissions meet the specified emission limitations

Figure C-1. Tire Production Affected Sources Compliance Options



C-2. Chart C-2: Tire Production Sources--Summary of Requirements

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Emission Limits	See Chart C-1	Existing: 63.5983(b) New: 63.5983(a)	• Existing sources: Within 3 years from the effective date • New Sources: Upon startup	Existing sources: Effective date. New sources: startup.
Demonstrate Compliance-				
General	• Demonstrate initial compliance with the emission limit of choice (Chart C-1). • Monitor and collect data to support calculation of the emissions at the required intervals. • Maintain records of the data and calculations, as listed in ***Recordkeeping Requirements*** to support demonstration of continuous compliance.	63.5991 63.6003(a)(b) Tables 9 and 10	• Existing: No later than the compliance date • New source, that startup on effective date or later: Within 180 days after the compliance date • New source, that startup between 10/18/2000 and the effective date: Within 180 days after the effective date or within 180 days from startup, whichever is later.	Initial performance test/ compliance demonstration .

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
With Control Devices (See Figure F)	• Determine control efficiency and capture efficiency according to procedures in Figure F and according to ***Testing Requirements–Control Devices*** (outlined below, in that section of this Chart) to demonstrate that the emission limits in Chart C-1 are initially met.	63.5994(e)	• See ***Demonstrate Compliance-General***.	
	• Establish an operating range that corresponds to the control efficiency as described in Figure F.	63.5994(d)(3)		
	• Monitor and maintain the operating parameters within the operating range established during the compliance demonstration.	63.5994(e)(1)(2)		
	• Install, operate, and maintain a continuous parameter monitoring system (CPMS) for each operating parameter that you are required to monitor according to your monitoring plan. See Figure G.	63.5995(a)	• On compliance.	Compliance date.
	• Conduct subsequent performance tests.	63.5992	• At least once every five years after the initial compliance tests.	Initial compliance tests.

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Purchase Alternative*	• Determine the mass percent of each HAP in each cement and solvent using ***HAP Content Test Requirements*** (outlined below, in that section of this Chart). • Demonstrate for each monthly period that no cements and solvents were purchased and used at the affected source containing HAP in amounts above the composition limits. • If you use a cement or solvent for which you have not previously verified percent HAP mass after you submit the Notification of Compliance Status, you must verify that the emission limits are met with these new cements and solvents . • Update the list of all the cements and solvents used at the affected source and submit in the compliance report for the reporting period during which you used the new cement or solvent.	63.5994(a),(b), (b)(1) 63.5985(a) 63.6004(c)(1) 63.6004(c)(2),(3)	• See ***Demonstrate Compliance-General***.	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Monthly Average Alternative	No control device: • Determine the amount of each HAP in each cement and solvent using ***HAP Content Test Requirements*** (outlined below, in that section of this Chart). • Use Formula C-1 to calculate the HAP emission rate. • Demonstrate that the monthly average HAP emissions for each monthly operating period do not exceed the emission limits. Control device: • Determine the amount of each HAP in each cement and solvent using ***HAP Content Test Requirements*** (outlined below, in that section of this Chart). • Use Formula C-2 to calculate the HAP emission rate. • Demonstrate that the monthly average HAP emissions for each monthly operating period do not exceed the emission limits.	63.5994(a),(b) (b)(2) 63.5985(b) 63.5994(a),(b), (b)(3) 63.5985(c)	• See ***Demonstrate Compliance-General***.	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Production-based Alternative	• Determine the mass percent of each HAP in each cement and solvent using ***HAP Content Test Requirements*** (outlined below, in that section of this Chart). • Determine the quantity of rubber used by accounting for the total mass of mixed rubber compound that is delivered to the tire production operation. • No add-on control device: Use Formula C-3 to calculate the monthly HAP emission rate (g of HAP emitted per Mg of rubber used). • Control device: Use Formula C-4 to calculate the monthly HAP emission rate (g of HAP emitted per Mg of rubber used). • Demonstrate that the monthly average HAP emissions for each monthly operating period do not exceed the emission limits.	63.5994(a)(c) 63.5994(c)(2) 63.5994(c)(3) 63.5994(c)(4) 63.5985(b)(c)	• See ***Demonstrate Compliance-General***.	
Testing Requirements-General	• Submit notification of intent to conduct a performance test. • Submit results of initial performance tests/compliance demonstrations.	63.6009(d) 63.5991(b) 63.5991(a) 63.5991(c)	• 60 days before test • Existing sources: No later than the compliance date. • New sources that startup on effective date or later: Within 180 days after the compliance date. • New sources that startup between 10/18/2000 and the effective date: Within 180 days after the effective date or within 180 days from startup, whichever is later.	Initial performance test date.

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Testing Requirements– HAP Content of Cements and Solvents	• Determine HAP content of cement and solvents using cements and solvents that are representative of those typically used at your tire production facility: • EPA Method 311 (40 CFR pt.63 app. A), ***or*** • An approved alternative method, ***or*** • Any other reasonable means for determining the HAP content,which include, but are not limited to: • Material safety data sheet (MSDS), provided it contains appropriate information; ***or*** • Certified product data sheet (CPDS); ***or*** • Manufacturer's hazardous air pollutant data sheet.	63.5994(a), (d)(2)	See ***Testing Requirements-General***.	
Testing Requirements-Control Devices (See Figure F)	• Perform tests as shown in Figure F. • Conduct tests under representative conditions. • Do not conduct performance tests during periods of startup, shutdown, or malfunction. • Conduct three separate test runs for each performance test. • Each test run must last at least 1 hour. • Conduct a test at least once every five years after the initial compliance tests.	63.5993 (a)-(e) 63.5993(b) 63.5993(c) 63.5993(d) 63.5993(d) 63.5992	See ***Testing Requirements-General.***	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Operating Requirements (See Figure F)	• Operate within the applicable emission limitations (Chart C-1), except during periods of startup, shutdown, and malfunction if you are using a control device to comply with an emission limit. • Always operate and maintain your facility, including air pollution control and monitoring equipment, to minimize emissions and correct malfunctions as soon as practicable. • Control devices: Establish an operating range that corresponds to the control efficiency as described in Figure F.	63.5990(a) 63.5990(b) 63.5994(d)(3)	Must operate according to these requirements on and after date on which initial performance test is conducted or required to be conducted, whichever is earlier: • Existing sources: No later than the compliance date • New sources that startup on effective date or later: Within 180 days after the compliance date • New sources that startup between 10/18/2000 and the effective date: Within 180 days after the effective date or within 180 days from startup, whichever is later.	Initial performance test.

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Monitoring Requirements– General	• Develop a site-specific monitoring plan that addresses for each monitoring system: • Installation of monitoring devices • Inspection of system performance, i.e., meets compliance limits. • Inspection of equipment operation. • Validation of performance of data collection and reduction systems. • Calibrations, i.e., performance evaluation procedures and acceptance criteria. • Ongoing operation and maintenance procedures. • Ongoing data quality assurance procedures. • Ongoing recordkeeping and reporting. procedures.	63.5990(e) 63.5990(f)	• On compliance date.	Compliance date.
	• Monitor continuously (or collect data at all required intervals) while the affected source is operating, including periods of startup, shutdown, and malfunction when the affected source is operating. except for: • Periods of monitoring malfunctions, • Associated repairs, and • Required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments).	63.6003(b)	• By compliance date or initial compliance demonstration, whichever is earlier.	Compliance date or initial compliance demonstration .

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Monitoring Requirements– Control Device Systems (See Figure G)	• For each operating parameter that you are required to monitor, you must install, operate, and maintain a continuous parameter monitoring system (CPMS) according to your monitoring plan. See Figure G.
	• Thermal oxidizer: Monitor the firebox secondary chamber temperature.
	• Carbon adsorber: Monitor the total regeneration stream mass or volumetric flow for each regeneration cycle, and the carbon bed temperature after each regeneration, and within 15 minutes of completing any cooling cycle.
	• Other control devices: Install and operate a continuous parameter monitoring system (CPMS) according to your site-specific performance test plan.
	• Permanent total enclosure:
	  • Monitor the face velocity across the natural draft openings (NDO) in the enclosure.
	  • Monitor the enclosure to ensure that the sizes of the NDO have not changed, that there are no new NDO.
	  • Monitor the enclosure to ensure that a HAP emission source has not been moved closer to an NDO since the last compliance demonstration was conducted.
	• Other Capture Systems: Monitor the parameters identified in your monitoring plan.
		63.5995(a)
		63.5994(e)(1)(i)
		63.5994(e)(1)(ii)
		63.5994(e)(1)(iii)
		63.5994(e)(1)(iv)
		63.5994(e)(1)(v)
			See ***Monitoring Requirements - General***.	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Reporting Requirements	• Submit initial notification.	63.6009(b) 63.6009(c) 63.6009(b) 63.6009(d)	• Existing sources: Within 120 days after the effective date. • New Sources: Startup on effective date or later: Within 120 days from startup. • Startup between 10/18/2000 and the effective date: Within 120 days after the effective date. • 60 days before test.	Effective date or startup.
	• Notification of intent to conduct a performance test. • Notification of compliance status.	63.5996(b), 63.6009(e)(1),(e)(2)	• For performance tests: Within 60 days following completion of the performance test. • For compliance demonstrations without performance tests: Within 30 days following completion of the initial compliance demonstration.	
	• Subsequent compliance reports.	63.6010(b) 63.6010(f) 63.6010(b)	• By July 31or January 31, whichever date follows the first full calendar half year after the compliance date, and semiannually on July 31 and January 31 thereafter, ***or*** • annually, if you are meeting the purchase alternative,* ***or*** • the dates established by the permitting authority, if you are subject to 40 CFR pt 70 or 71 permitting requirements.	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Reporting Requirements (continued)	• Site-specific monitoring plan	63.5990(e)	• On compliance date.	Compliance date.
	• Immediate revised startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your startup, shutdown, and malfunction plan (SSMP) and actions taken for the event.	63.6010(c)(4), Table 15	• Within two working days after starting actions inconsistent with the plan (by fax or telephone).	Incident.
	• A follow-up report to the startup, shutdown, and malfunction plan incident explaining the circumstances of the event, the reasons for not following the plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.	63.6010(c)(4), Table 15	• Within 7 working days after the end of the event (by letter) unless you have made alternative arrangements with the permitting authority	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Recordkeeping Requirements	• For compliance with purchase compliance alternative and HAP constituent emission limit:
	  • A list of each cement and solvent as purchased and the manufacturer or supplier of each.
	  • A record of Method 311 (40 CFR part 60, appendix A), or approved alternative method, test results indicating the mass percent of each HAP for each cement and solvent as purchased.
		Table 9, 63.5985(a)	• By compliance date or initial compliance demonstration, whichever is earlier.	Compliance date or initial compliance demonstration.

	• For compliance with the monthly average compliance alternative without using a control device:
	  • A record of Method 311, or approved alternative method, test results, indicating the mass percent of each HAP for each cement and solvent used.
	  • The mass of each cement and solvent used each monthly operating period.
	  • The total mass of rubber used each monthly operating period (if complying with the production-based emission limit)
	  • All data and calculations used to determine the monthly average mass percent for each HAP for each monthly operating period.
	  • Monthly averages of emissions in the appropriate emission limit format.
		Table 9, 63.5985(b)	• By compliance date or initial compliance demonstration, whichever is earlier.	Compliance date or initial compliance demonstration.

	• For compliance with the monthly average compliance alternative using a control device.	Table 9, 63.5985(c)	• By compliance date or initial compliance demonstration, whichever is earlier.	Compliance date or initial compliance

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Recordkeeping Requirements (continued)	• Maintain a log detailing the operation and maintenance of the process and emission control equipment.	63.5990(c)	• During the period between your facility's compliance date and the date upon which your CPMS has been installed and validated and any applicable operating limits have been set.	Compliance date.
	• The results for each inspection, calibration, and validation check of your CPMS, as specified in your site-specific monitoring plan.	63.5995(a)(6)	• As specified in your monitoring plan.	Compliance date.

* Purchase alternative: Use only cements and solvents that, as purchased, contain no more HAP than allowed by the applicable emission limits.

C-3. Tire Production Compliance Demonstration Formulas

Use Formula C-1 to calculate the HAP emission rate for each monthly operating period when complying by using cements and solvents without using an add-on control device so that the monthly average HAP emissions do not exceed the HAP constituent emission limits in Table 1 to Subpart XXXX, Option 1 (also outlined in Chart C-1 of this document).

Formula C-1

$$E_{month} = \frac{\left(\sum_{i=1}^{n} (HAP_i)(TMASS_i)\right)(10^6)}{\sum_{i=1}^{n} TMASS_i}$$

Where:

E_{month}	=	mass of the specific HAP emitted per total mass cements and solvents from all cements and solvents used in tire production per month, grams per megagram.
HAP_i	=	mass percent, expressed as a decimal, of the specific HAP in cement and solvent i, as purchased.
$TMASS_i$	=	total mass of cement and solvent i used in the month, grams.
n	=	number of cements and solvents used in the month.

C-3. Tire Production Compliance Demonstration Formulas (continued)

Use Formula C-2 to calculate the HAP emission rate for each monthly period when complying by using a control device to reduce HAP emissions so that the monthly average HAP emissions do not exceed the HAP constituent emission limits in Table 1 to subpart XXXX, Option 1, (also outlined in Chart C-1 of this document)..

Formula C-2

$$E_{month} = \frac{\left\{\sum_{i=1}^{n}\left(HAP_i\right)\left(TMASS_i\right)+\sum_{j=1}^{m}\left(HAP_j\right)\left(TMASS_j\right)\left(1-\frac{EFF}{100}\right)+\sum_{k=1}^{p}\left(HAP_k\right)\left(TMASS_k\right)\right\}\left(10^6\right)}{\sum_{i=1}^{n}TMASS_i+\sum_{j=1}^{m}TMASS_j+\sum_{k=1}^{p}TMASS_k}$$

Where:

E_{month}	=	mass of the specific HAP emitted per total mass cements and solvents from all cements and solvents used in tire production per month, grams per megagram.
HAP_i	=	mass percent, expressed as a decimal, of the specific HAP in cement and solvent i, as purchased, for cements and solvents used in the month in processes that are not routed to a control device.
$TMASS_i$	=	total mass of cement and solvent i used in the month in processes that are not routed to a control device, grams.
n	=	number of cements and solvents used in the month in processes that are not routed to a control device.
HAP_j	=	mass percent, expressed as a decimal, of the specific HAP in cement and solvent j, as purchased, for cements and solvents used in the month in processes that are routed to a control device during operating days, which are defined as days when the control system is operating within the operating range established during the performance test and when monitoring data are collected.
$TMASS_j$	=	total mass of cement and solvent j used in the month in processes that are routed to a control device during all operating days, grams.
EFF	=	efficiency of the control system determined during the performance test (capture system efficiency multiplied by the control device efficiency), percent.

m	=	number of cements and solvents used in the month that are routed to a control device during all operating days.
HAP_k	=	mass percent, expressed as a decimal, of the specific HAP in cement and solvent k, as purchased, for cements and solvents used in the month in processes that are routed to a control device during non-control operating days, which are defined as days when either the control system is not operating within the operating range established during the performance test or when monitoring data are not collected.
$TMASS_k$	=	total mass of cement and solvent k used in the month in processes that are routed to a control device during all non-control operating days, grams.
p	=	number of cements and solvents used in the month that are routed to a control device during all non-control operating days.

C-3. Tire Production Compliance Demonstration Formulas (continued)

If you do not use an add-on control device to meet the emission limits, use Formula C-3 to calculate the monthly HAP emission rate in grams of HAP emitted per megagram of rubber used, using the quantity of rubber used per month (megagrams) so that the monthly average HAP emission does not exceed the HAP emission limit in Table 1 to subpart XXXX, Option 2 (also outlined in Chart C-1 of this document)..

Formula C-3

$$E_{month} = \frac{\sum_{i=1}^{n} \left(HAP_i\right)\left(TMASS_i\right)}{RMASS}$$

Where:

E_{month}	=	mass of all HAP emitted per total mass of rubber used month, grams per megagram.
HAP_i	=	mass percent, expressed as a decimal, of all HAP in cement and solvent i, as purchased.
$TMASS_i$	=	total mass of cement and solvent i used in the month, grams.
n	=	number of cements and solvents used in the month.
RMASS	=	total mass of rubber used per month, megagrams.

C-3. Tire Production Compliance Demonstration Formulas (continued)

If you use a control device to meet the emission limits, use Formula C-4 to calculate grams of HAP emitted per megagram of rubber used, using the quantity of rubber used per month (megagrams), so that the monthly average HAP emission does not exceed the HAP emission limit in Table 1 of subpart XXXX, option 2 (also outlined in Chart C-1 of this document).

Formula C-4

$$E_{month} = \frac{\sum_{i=1}^{n}\left(HAP_i\right)\left(TMASS_i\right)+\sum_{j=1}^{m}\left(HAP_j\right)\left(TMASS_j\right)\left(1-\frac{EFF}{100}\right)+\sum_{k=1}^{p}\left(HAP_k\right)\left(TMASS_k\right)}{RMASS}$$

Where:

E_{month}	=	mass of all HAP emitted per total mass rubber used per month, grams per megagram.
HAP_i	=	mass percent, expressed as a decimal, of all HAP in cement and solvent i, as purchased, for cements and solvents used in the month in processes that are not routed to a control device.
$TMASS_i$	=	total mass of cement and solvent i used in the month in processes that are not routed to a control device, grams.
n	=	number of cements and solvents used in the month in processes that are not routed to a control device.
HAP_j	=	mass percent, expressed as a decimal, of all HAP in cement and solvent j, as purchased, for cements and solvents used in the month in processes that are routed to a control device during operating days, which are defined as days when the control system is operating within the operating range established during the performance test and when monitoring data are collected.
$TMASS_j$	=	total mass of cement and solvent j used in the month in processes that are routed to a control device during all operating days, grams.
EFF	=	efficiency of the control system determined during the performance test (capture system efficiency multiplied by the control device efficiency), percent.
m	=	number of cements and solvents used in the month that are routed to a control device during all operating days.
HAP_k	=	mass percent, expressed as a decimal, of the specific HAP in cement and solvent k, as purchased, for cements and solvents used in the month in processes that are routed to a control device during non-control operating days, which are defined as days when either the control system is not operating

		within the operating range established during the performance test or when monitoring data are not collected.
$TMASS_k$	=	total mass of cement and solvent k used in the month in processes that are routed to a control device during all non-control operating days, grams.
p	=	number of cements and solvents used in the month that are routed to a control device during all non-control operating days.
RMASS	=	total mass of rubber used per month, megagrams.

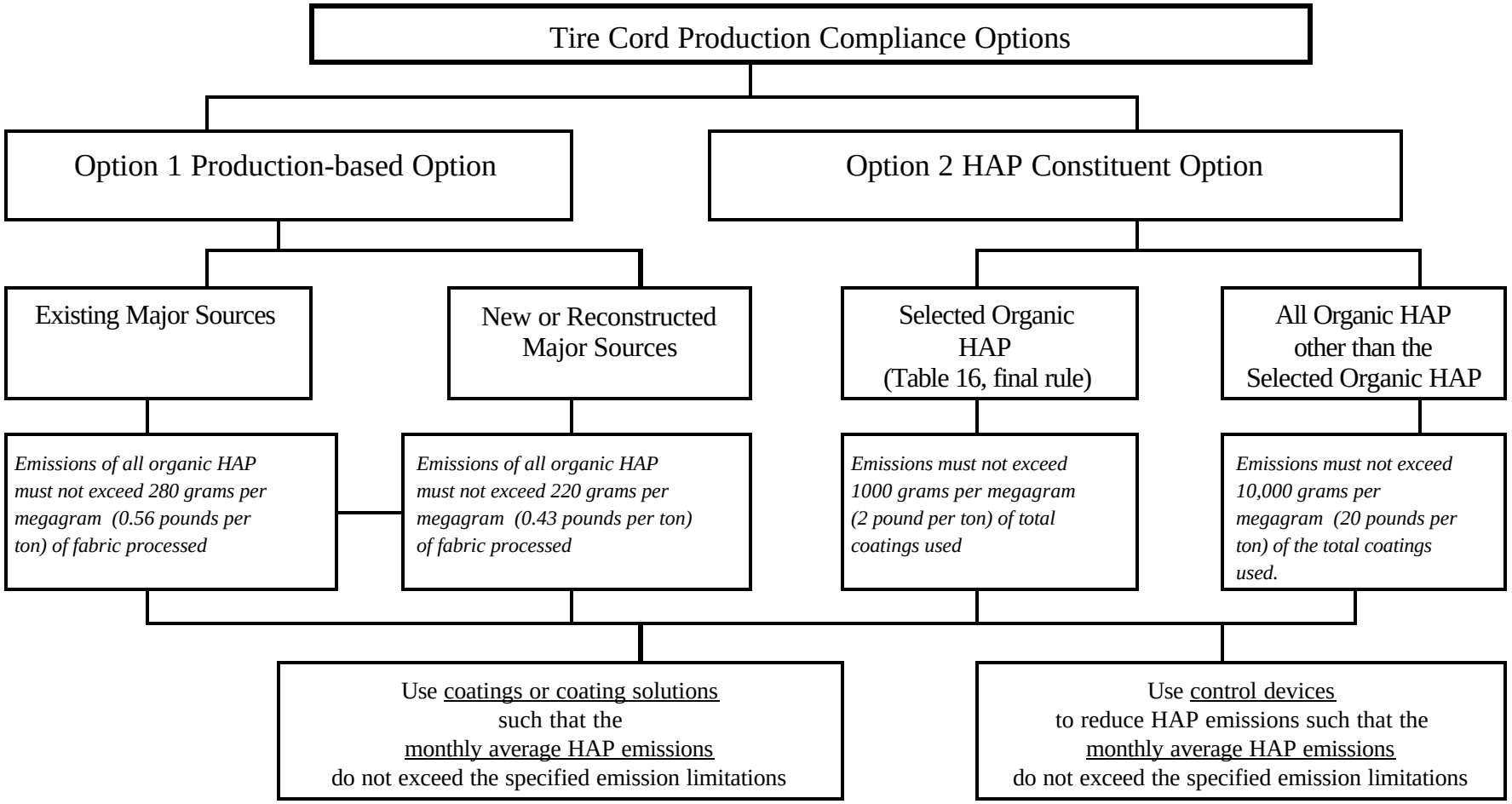
D. Tire Cord Production Affected Sources

This section summarizes the emission limitations and compliance options, regulatory requirements, and compliance demonstration formulas for Tire Cord Production affected sources in the Rubber Tire Manufacturing industry.

D-1. Chart D-1: Tire Cord Production Affected Sources--Emission Limitations and Compliance Options
(***See Figure D-1 for illustration of Chart D-1***)

Affected Source	Pollutant	Limit	Compliance Option
Option 1 - Existing major sources, Production-based option	All organic HAP	Emissions must not exceed 280 grams per megagram (0.56 pounds per ton) of fabric processed	• Use coating solutions such that the monthly average HAP emissions do not exceed the applicable emission limit, ***or*** • Use a control device to reduce HAP emissions such that the monthly average HAP emissions do not exceed the applicable emission limitation
Option 1 - New or reconstructed major sources, Production-based option	All organic HAP	Emissions must not exceed 220 grams per megagram (0.43 pounds per ton) of fabric processed	
Option 2 - Existing, new or reconstructed major sources, HAP constituent option	Selected organic HAP (See Table 16 of final rule)	Emissions must not exceed 1,000 grams HAP per megagram (2 pounds per ton) of total coatings used	• Use coatings such that the monthly average HAP emissions meet the specified emission limitations, ***or*** • Use control devices to reduce HAP emissions such that the monthly average HAP emissions meet the specified emission limitations
	All other organic HAP	Emissions must not exceed 10,000 grams HAP per megagram (20 pounds per ton) of total coatings used	

Figure D-1. Tire Cord Production Affected Sources Compliance Options



D-2. Chart D-2: Tire Cord Production Sources--Summary of Requirements

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Emission Limits	See Chart D-1	Existing: 63.5983(b) New: 63.5983(a)	• Existing sources: Within 3 years from the effective date. • New Sources: Upon startup.	Existing sources: Effective date. New sources: startup.
Demonstrate Compliance-				
General	• Demonstrate initial compliance with the emission limit of choice (Chart D-1). • Monitor and collect data to support calculation of the emissions at the required intervals. • Maintain records of the data and calculations, as listed in ***Recordkeeping Requirements*** (outlined below, in that section of this chart), to support demonstration of continuous compliance.	63.5997 63.6005(a)(b) Tables 11 and 12	According to source type: • Existing: No later than the compliance date. • New source, that startup on effective date or later: Within 180 days after the compliance date. • New source, that startup between 10/18/2000 and the effective date: Within 180 days after the effective date or within 180 days from startup, whichever is later.	Initial performance test/ compliance demonstration .

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
With Control Devices (See Figure F)	• Determine control efficiency and capture efficiency according to procedures in Figure F and according to ***Testing Requirements–Control Devices*** (outlined below, in that section of this chart) to demonstrate that the emission limits in Chart D-1 are initially met. • Establish an operating range that corresponds to the control efficiency, as described in Figure F. • Monitor and maintain the operating parameters within the operating range established during the compliance demonstration. • Install, operate, and maintain a continuous parameter monitoring system (CPMS) for each operating parameter that you are required to monitor according to your monitoring plan. See Figure G. • Conduct subsequent performance tests.	63.5997(e) 63.5997(d)(3) 63.5997(e) 63.5998 63.5992	• See ***Demonstrate Compliance-General*** • On compliance. • At least once every five years after the initial compliance tests.	Compliance date. Initial compliance tests.

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Production-based Alternative	• Determine the mass percent of each HAP in each coating using ***HAP Content Test Requirements*** (outlined below, in that section of this chart). • No add-on control device: Use Formula D-1 to calculate the monthly HAP emission rate (g of HAP emitted per Mg of fabric processed). • Control device: Use Formula D-2 to calculate the monthly HAP emission rate (g of HAP emitted per Mg of fabric processed). • Demonstrate that the monthly average HAP emissions for each monthly operating period do not exceed the emission limits.	63.5997(a) 63.5997(c)(2) 63.5997(c)(3) 63.5987(b)	See ***Demonstrate Compliance-General***	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Monthly Average Alternative	• No control device:
	  • Determine the amount of each HAP in each coating using ***HAP Content Test Requirements*** (outlined below, in that section of this chart).
	  • Use Formula D-3 to calculate the HAP emission rate.
	  • Demonstrate that the monthly average HAP emissions for each monthly operating period do not exceed the emission limits.
	• Control device:
	  • Determine the amount of each HAP in each coating using ***HAP Content Test Requirements*** (outlined below, in that section of this chart).
	  • Use Formula D-4 to calculate the HAP emission rate.
	  • Demonstrate that the monthly average HAP emissions for each monthly operating period do not exceed the emission limits.
		63.5997(a),(b) (b)(2)
		63.5987(a)
		63.5997(a),(b),(b)(3)
		63.5987(b)
			See ***Demonstrate Compliance-General***	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Testing Requirements-General	• Submit notification of intent to conduct a performance test. • Submit results of initial performance tests/compliance demonstrations.	63.6009(d) 63.5991(a) 63.5991(b) 63.5991(c)	• 60 days before test • Existing sources: No later than the compliance date. • New sources that begin operation on effective date or later: Within 180 days after the compliance date. • News sources that startup between 10/18/2000 and the effective date: Within 180 days after the effective date or within 180 days from startup, whichever is later.	Initial performance. test date.

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Testing Requirements–HAP Content of Coatings	• Determine HAP content of coatings that are representative of those typically used at your tire cord production facility:
	  • EPA Method 311 (40 CFR pt.63 app. A), ***or***
	  • An approved alternative method, ***or***
	  • Any other reasonable means for determining the HAP content, which include, but are not limited to:
	  • Material safety data sheet (MSDS), provided it contains appropriate information; ***or***
	  • Certified product data sheet (CPDS); ***or***
	  • Manufacturer's hazardous air pollutant data sheet.
		63.5997(a), (d)(2)	See ***Testing Requirements–General.***	

	• The HAP content analysis must be based on coatings prior to any cross-linking reactions, i.e., curing. However, you may account for differences in HAP emissions resulting from chemical reactions based on the conversion rates of the individual coating formulations, chemistry demonstrations, or other demonstrations that are verifiable to the approving agency. Use the revised value in your compliance demonstration in the relevant equations.	63.5997(a)(2)		

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Testing Requirements-Control Devices (See Figure F)	• Perform tests as shown in Figure F.
	  • Conduct tests under representative conditions.
	  • Do not conduct performance tests during periods of startup, shutdown, or malfunction.
	  • Conduct three separate test runs for each performance test.
	  • Each test run must last at least 1 hour.
	• Conduct a test at least once every five years after the initial compliance tests.
		63.5993 (a)-(e)
		63.5993(b)
		63.5993(c)
		63.5993(d)
		63.5993(d)
		63.5992
			See ***Testing Requirements–General.***	

Operating Requirements (See Figure F)	• Operate within the applicable emission limitations (Chart D-1), except during periods of startup, shutdown, and malfunction if you are using a control device to comply with an emission limit. • Always operate and maintain your facility, including air pollution control and monitoring equipment, to minimize emissions and correct malfunctions as soon as practicable. • Control devices: Establish an operating range that corresponds to the control efficiency as described in Figure F.	63.5990(a) 63.5990(b) 63.5997(d)(3)	Must operate according to these requirements on and after date on which initial performance test is conducted or required to be conducted, whichever is earlier: • Existing sources: No later than the compliance date • New sources that startup on effective date or later: Within 180 days after the compliance date • New sources that startup between 10/18/2000 and the effective date: Within 180 days after the effective date or within 180 days from startup, whichever is later.	Initial performance test

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Monitoring Requirements–General	• Develop a site-specific monitoring plan that addresses for each monitoring system:
	  • Installation of monitoring devices
	  • Inspection of system performance, i.e., meets compliance limits.
	  • Inspection of equipment operation.
	  • Validation of performance of data collection and reduction systems.
	  • Calibrations, i.e., performance evaluation procedures and acceptance criteria.
	  • Ongoing operation and maintenance procedures.
	  • Ongoing data quality assurance procedures.
	  • Ongoing recordkeeping and reporting. procedures.
	• Monitor continuously (or collect data at all required intervals) while the affected source is operating, including periods of startup, shutdown, and malfunction when the affected source is operating, except for:
	  • Periods of monitoring malfunctions,
	  • Associated repairs, and
	  • Required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments).
		63.5990(e)
		
		63.5990(f)
		
		63.6005(b)
			On compliance date.	Compliance date.

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Monitoring Requirements– Control Device Systems (See Figure G)	• For each operating parameter that you are required to monitor, you must install, operate, and maintain a continuous parameter monitoring system (CPMS) according to your monitoring plan. See Figure G.
	• Thermal oxidizer: Monitor the firebox secondary chamber temperature.
	• Carbon adsorber: Monitor the total regeneration stream mass or volumetric flow for each regeneration cycle, and the carbon bed temperature after each regeneration, and within 15 minutes of completing any cooling cycle.
	• Other control devices: Install and operate a continuous parameter monitoring system (CPMS) according to your site-specific performance test plan.
	• Permanent total enclosure:
	  • Monitor the face velocity across the natural draft openings (NDO) in the enclosure.
	  • Monitor the enclosure to ensure that the sizes of the NDO have not changed, that there are no new NDO.
	  • Monitor the enclosure to ensure that a HAP emission source has not been moved closer to an NDO since the last compliance demonstration was conducted.
	• Other Capture Systems: Monitor the parameters identified in your monitoring plan.
		63.5998
		63.5997(e)(1)(i)
		63.5997(e)(1)(ii)
		63.5997(e)(1)(iii)
		63.5997(e)(1)(iv)
		63.5997(e)(1)(v)
			See ***Monitoring Requirements– General.***	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Reporting Requirements	• Submit initial notification.	63.6009(b) 63.6009(c) 63.6009(b)	• Existing sources: Within 120 days after the effective date. • New Sources: Startup on effective date or later: Within 120 days from startup. • Startup between 10/18/2000 and the effective date: Within 120 days after the effective date.	Start up or effective date.
	• Notification of intent to conduct a performance test.	63.6009(d)	• 60 days before test.	
	• Notification of compliance status.	63.6009(e)(1),(e)(2) 63.5999(b)	• For performance tests: Within 60 days following completion of the performance test. • For compliance demonstrations without performance tests: Within 30 days following completion of the initial compliance demonstration.	
	• Subsequent compliance reports.	63.6010(b)	• By July 31or January 31, whichever date follows the first full calendar half year after the compliance date, and semiannually on July 31 and January 31, thereafter, ***or*** • the dates established by your permitting authority, if you are subject to 40 CFR pt 70 or 71 permitting requirements.	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Reporting Requirements (continued)	• Site-specific monitoring plan.	63.5990(e)	• Compliance date.	Compliance date.
	• Immediate revised startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your startup, shutdown, and malfunction plan (SSMP) and actions taken for the event.	63.6010(c)(4), Table 15	• Within two working days after starting actions inconsistent with the plan (by fax or telephone).	Incident.
	• A follow-up report to the startup, shutdown, and malfunction plan incident explaining the circumstances of the event, the reasons for not following the plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.	63.6010(c)(4), Table 15	• Within 7 working days after the end of the event (by letter) unless you have made alternative arrangements with the permitting authority	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

/Recordkeeping Requirements	• For compliance with the monthly average compliance alternative without using a control device:
	  • A record of Method 311, or approved alternative method, test results, indicating the mass percent of each HAP for each coating used.
	  • The mass of coating used each monthly operating period.
	  • The total mass of fabric processed each monthly operating period, if complying with the prodcution-based option.
	  • All data and calculations used to determine the monthly average mass percent for each HAP for each monthly operating period.
	  • Monthly averages of emissions in the appropriate emission limit format.
		Table 11, 63.5987(a)	By compliance date or initial compliance demonstration, whichever is earlier.	Compliance date.

	• For compliance with the monthly average compliance alternative using a control device. • The same information as sources complying with the monthly average alternative without using a control device.	Table 11, 63.5987(b)	By compliance date or initial compliance demonstration, whichever is earlier.	Compliance date.
	• Records of operating parameter values for each operating parameter that applies to your facility. • Maintain a log detailing the operation and maintenance of the process and emission control equipment.	63.5990(c)	• During the period between your facility's compliance date and the date upon which continuous compliance monitoring systems have been installed and validated and any applicable operating limits have been set.	Compliance date.
		63.5998	• As specified in monitoring plan..	Compliance

D.3 Tire Cord Production Compliance Demonstration–Formulas

If you do not use an add-on control device to meet the emission limits, use Formula D-1 to calculate the monthly HAP emission rate in grams of HAP emitted per megagram of fabric processed at the tire cord production source to show that the monthly average HAP emissions do not exceed the emission limits in Table 2 to subpart XXXX, option 1 (also outlined in Chart D-1 of this document).

Formula D-1

$$E_{month} = \frac{\sum_{i=1}^{n} \left(HAP_i \right)\left(TCOAT_i \right)}{TFAB}$$

Where:

E_{month}	=	mass of all HAP emitted per total mass of fabric processed in the month, grams per megagram.
HAP_i	=	mass percent, expressed as a decimal, of all HAP in the coating i, prior to curing and including any application station dilution.
$TCOAT_i$	=	total mass of coating i made and used for application to fabric at the facility in the month, grams.
n	=	number of coatings used in the month.
TFAB	=	total mass of fabric processed in the month, megagrams.

D.3 Tire Cord Production Compliance Demonstration–Formulas (continued)

If you use a control device to meet the emission limits, use Formula D-2 to calculate grams of HAP emitted per megagram of fabric processed to show that the monthly average HAP emissions do not exceed the HAP emission limit in Table 2 of subpart XXXX, option 1 (also outlined in Chart D-1 of this document).

Formula D-2

$$E_{month} = \frac{\sum_{i=1}^{n}\left(HAP_i\right)\left(TCOAT_i\right) + \sum_{j=1}^{m}\left(HAP_j\right)\left(TCOAT_j\right)\left(1-\frac{EFF}{100}\right) + \sum_{k=1}^{p}\left(HAP_k\right)\left(TCOAT_k\right)}{TFAB}$$

Where:

E_{month}	=	mass of all HAP emitted per total mass of fabric processed in the month, grams per megagram.
HAP_i	=	mass percent, expressed as a decimal, of all HAP in coating i, prior to curing and including any application stations dilution, for coatings used in the month in processes that are not routed to a control device.
$TCOAT_i$	=	total mass of coating i made and used for application to fabric at the facility in the month in processes that are not routed to a control device, grams.
n	=	number of coatings used in the month in processes that are not routed to a control device.
HAP_j	=	mass percent, expressed as a decimal, of all HAP in coating j, prior to curing and including any application station dilution, for coatings used in the month in processes that are routed to a control device during operating days, which are defined as days when the when the control system is operating within the operating range established during the performance test and when monitoring data are collected.
$TCOAT_j$	=	total mass of coating j made and used for application to fabric at the facility in the month in processes that are routed to a control device during all operating days, grams.
EFF	=	efficiency of the control system determined during the performance test (capture system efficiency multiplied by the control device efficiency), percent.
m	=	number of coatings used in the month that are routed to a control device during all operating days.

HAP_k	=	mass percent, expressed as a decimal, of all HAP in coating k, prior to curing and including any application station dilution, for coatings used in the month in processes that are routed to a control device during non-control operating days, which are defined as days when either the control system is not operating within the operating range established during the performance test or when monitoring data are not collected.
$TCOAT_k$	=	total mass of coating k made and used for application to fabric at the facility in the month in processes that are routed to a control device during all non-control operating days, grams.
p	=	number of coatings used in the month that are routed to a control device during all non-control operating days.
TFAB	=	total mass of fabric processed in the month, megagrams.

D.3 Tire Cord Production Compliance Demonstration–Formulas (continued)

Use Formula D-3 to calculate the monthly average HAP emission rate when complying by using coatings without using an add-on control device to show that the monthly average HAP emissions do not exceed the emission limits in Table 2 to subpart XXXX, option 2 (also outlined in Chart D-1 of this document).

Formula D-3

$$E_{month} = \frac{\left(\sum_{i=1}^{n}\left(HAP_i\right)\left(TCOAT_i\right)\right)\left(10^6\right)}{\sum_{i=1}^{n} TCOAT_i}$$

Where:

E_{month}	=	mass of the specific HAP emitted per total mass of coatings from all coatings made and used in tire cord fabric production per month, grams per megagram.
HAP_i	=	mass percent, expressed as a decimal, of the specific HAP in the coating i, prior to curing and including any application station dilution.
$TCOAT_i$	=	total mass of coating i made and used for application to fabric at the facility in the month, grams.
n	=	number of coatings used in the month.

D.3 Tire Cord Production Compliance Demonstration–Formulas (continued)

Use Formula D-4 to calculate the monthly average HAP emission rate when complying by using an add-on control device to show that the monthly average HAP emissions do not exceed the emission limits in Table 2 to subpart XXXX, option 2 (also outlined in Chart D-1 of this document).

Formula D-4

$$E_{month} = \frac{\left\{\sum_{i=1}^{n}\left(HAP_i\right)\left(TCOAT_i\right)+\sum_{j=1}^{m}\left(HAP_j\right)\left(TCOAT_j\right)\left(1-\frac{EFF}{100}\right)+\sum_{k=1}^{p}\left(HAP_k\right)\left(TMASS_k\right)\right\}\left(10^6\right)}{\sum_{i=1}^{n}TCOAT_i+\sum_{j=1}^{m}TCOAT_j+\sum_{k=1}^{p}TCOAT_k}$$

Where:

E_{month}	=	mass of the specific HAP emitted per total mass of coatings from all coatings made and used in tire cord fabric production per month, grams per megagram.
HAP_i	=	mass percent, expressed as a decimal, of the specific HAP in coating i, prior to curing and including any application station dilution, for coatings used in the month in processes that are not routed to a control device.
$TCOAT_i$	=	total mass of coating i made and used for application to fabric at the facility in the month in processes that are not routed to a control device, grams.
n	=	number of coatings used in the month in processes that are not routed to a control device.
HAP_j	=	mass percent, expressed as a decimal, of the specific HAP in coating j, prior to curing and including any application station dilution, for coatings used in the month in processes that are routed to a control device during operating days, which are defined as days when the control system is operating within the operating range established during the performance test and when monitoring data are collected.
$TCOAT_j$	=	total mass of coating i made and used for application to fabric at the facility in the month in processes that are routed to a control device during all operating days, grams.
EFF	=	efficiency of the control system determined during the performance test (capture system efficiency multiplied by the control device efficiency), percent.
m	=	number of coatings used in the month that are routed to a control device during all operating days.

HAP_k	=	mass percent, expressed as a decimal, of all HAP in coating k, prior to curing and including any application station dilution, for coatings used in the month in processes that are routed to a control device during non-control operating days, which are defined as days when either the control system is not operating within the operating range established during the performance test or when monitoring data are not collected.
$TCOAT_k$	=	total mass of coating i made and used for application to fabric at the facility in the month in processes that are routed to a control device during all non-control operating days, grams.
p	=	number of coatings used in the month that are routed to a control device during all non-control operating days.

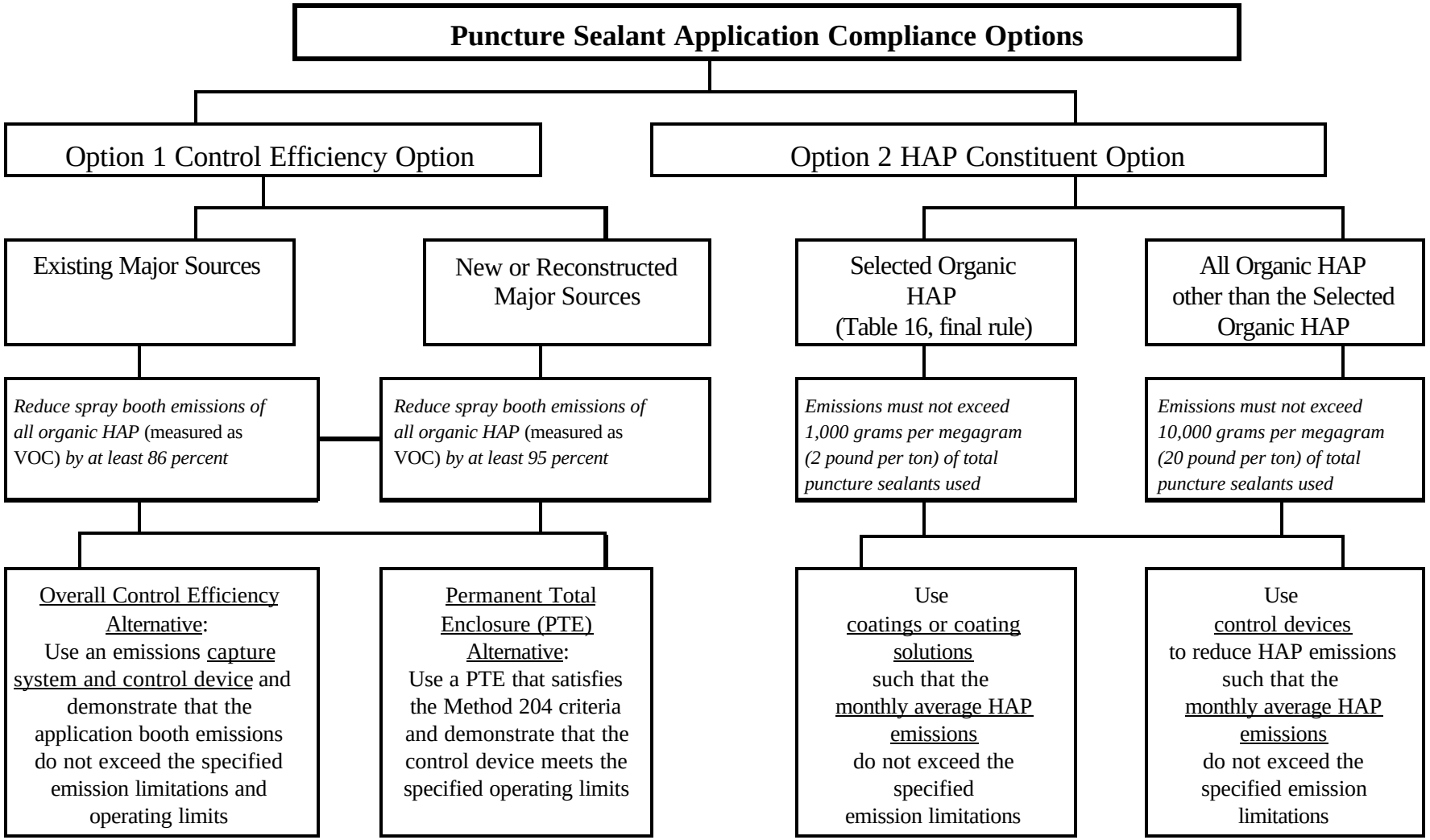
E. Puncture Sealant Application Affected Sources

This section summarizes the emission limitations and compliance options, regulatory requirements, and compliance demonstration formulas for Puncture Sealant Application affected sources in the Rubber Tire Manufacturing industry.

E-1. Chart E-1: Puncture Sealant Application Affected Sources--Emission Limitations and Compliance Options
(***See Figure E-1 for illustration of Chart E-1***)

Affected Source	Pollutant	Limit	Compliance Options
Option 1 - Existing major sources, Control efficiency option	All organic HAP (measured as VOC)	Reduce spray booth emissions by at least 86 percent	• Overall Control Efficiency Alternative: Use an emissions capture system and control device and demonstrate that the application booth emissions meet the specified emission limitations and operating limits; ***or*** • Permanent Total Enclosure (PTE) Alternative: Use a PTE that satisfies the Method 204 criteria in 40 CFR part 51 and demonstrate that the control device meets the specified operating limits and reduces at least 86 percent of emissions for existing sources and 95 percent of emissions for new sources.
Option 1 - New or reconstructed major sources, Control efficiency option	All organic HAP (measured as volatile organic compounds (VOC))	Reduce spray booth emissions by at least 95 percent	
Option 2 - Existing, new or reconstructed major sources, HAP constituent option	Selected organic HAP (See Table 16 of final rule)	Emissions must not exceed 1,000 grams HAP per megagram (2 pounds per ton) of total puncture sealants used	• Use sealants such that the monthly average HAP emissions meet the specified emission limitations, ***or*** • Use control devices to reduce HAP emissions such that the monthly average HAP emissions meet the specified emission limitations
	All other organic HAP	Emissions must not exceed 10,000 grams HAP per megagram (20 pounds per ton) of total puncture sealants used	

Figure E-1. Puncture Sealant Application Affected Sources Compliance Options



[1] 40 CFR part 51.

E-2. Chart E-2: Puncture Sealant Application Sources--Summary of Requirements

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Emission Limits	See Chart E-1	Existing: 63.5983(b) New: 63.5983(a)	• Existing sources: Within 3 years from the effective date. • New Sources: Upon startup.	Existing sources: Effective date. New sources: startup.
Demonstrate Compliance				

General	• Demonstrate initial compliance with the emission limit or operation of choice (Chart E-1).
	• Monitor and collect data to support calculation of the emissions or operating at the required intervals.
	• Maintain records of the data and calculations, as listed in ***Recordkeeping Requirements*** (outlined below, in that section of this chart) to support demonstration of continuous compliance.
		63.6000
		
		63.6007
		
		Tables 13 and 14
			• According to source type:
			  • Existing: No later than the compliance date.
			  • New, that startup on effective date or later: Within 180 days after the compliance date.
			  • New, that startup between 10/18/2000 and the effective date: Within 180 days after the effective date or within 180 days from startup, whichever is later.
				Initial performance test/ compliance demonstration.

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Control Efficiency Options (See Figure F)	• Determine the control efficiency and/or capture efficiency according to procedures in Figure F and according to ***Testing Requirements– Control Devices*** (outlined below, in that section of this chart) to demonstrate that the emission limits or operating levels in Chart E-1 are initially met.	63.6000(b) 63.5989(a)(b)	See ***Demonstrate Compliance-General***	
	• Demonstrate that the application booth emissions do not exceed the emission limits in Chart E-1.	63.6000(b)(1)(ii)		
	• Establish an operating range that corresponds to the control and capture efficiencies as described in Figure F.	63.6000(b)(2)		
	• Use Formula E-1 to calculate the overall control efficiency.	63.6000(b)(3)		
	• Monitor and maintain the operating parameters within the operating range established during the compliance demonstration.	63.6001	On compliance.	Compliance date.
	• Install, operate, and maintain a continuous parameter monitoring system (CPMS) for each operating parameter that you are required to monitor according to your monitoring plan. See Figure G.	63.5992	At least once every five years after the initial compliance tests.	Initial compliance tests.
	• Conduct subsequent performance tests.			

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Monthly Average Alternative	• No control device:
	  • Determine the amount of each HAP in each puncture sealant using ***HAP Content Test Requirements*** (outlined below, in that section of this chart).
	  • Use Formula E-2 to calculate the HAP emission rate.
	  • Demonstrate that the monthly average HAP emissions for each monthly operating period do not exceed the emission limits.
	• Control device:
	  • Determine the amount of each HAP in each puncture sealant using ***HAP Content Test Requirements*** (outlined below, in that section of this chart).
	  • Use Formula E-3 to calculate the HAP emission rate.
	  • Demonstrate that the monthly average HAP emissions for each monthly operating period do not exceed the emission limits.
		63.6000 (a),(c)
		63.6000(d)(1)
		63.5989(c)
		63.6000(a),(d)
		63.6000(d)(2)
		63.5989(d)
			See ***Demonstrate Compliance-General***	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Testing Requirements-General	• Submit notification of intent to conduct a performance test. • Submit results of initial performance tests/compliance demonstrations.	63.6009(d) 63.5991(b) 63.5991(a) 63.5991(c)	• 60 days before test • Existing sources: No later than the compliance date. • New sources that startup on effective date or later: Within 180 days after the compliance date. • New sources that startup between 10/18/2000 and the effective date: Within 180 days after the effective date or within 180 days from startup, whichever is later.	Initial performance test date.

Testing Requirements–HAP Content of Puncture Sealants	• Determine HAP content of puncture sealants that are representative of those typically used at your puncture sealant application source:
	  • EPA Method 311 (40 CFR pt.63 app. A) , ***or***
	  • An approved alternative method, ***or***
	  • Any other reasonable means for determining the HAP content,which include, but are not limited to:
	  • Material safety data sheet (MSDS), provided it contains appropriate information; ***or***
	  • Certified product data sheet (CPDS); ***or***
	  • Manufacturer's hazardous air pollutant data sheet.
		63.6000 (c),(e)(2)	See ***Testing Requirements–General***	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Testing Requirements-Control Devices (See Figure F)	• Perform tests as shown in Figure F.
	  • Conduct tests under representative conditions.
	  • Do not conduct performance tests during periods of startup, shutdown, or malfunction.
	  • Conduct three separate test runs for each performance test.
	  • Each test run must last at least 1 hour.
	• Conduct a test at least once every five years after the initial compliance tests.
		63.5993 (a)-(e)
		63.5993(b)
		63.5993(c)
		63.5993(d)
		63.5993(d)
		63.5992
			See ***Testing Requirements–General***	

Operating Requirements (See Figure E-2)	• Operate within the applicable emission limitations (Chart E-1), except during periods of startup, shutdown, and malfunction if you are using a control device to comply with an emission limit. • Always operate and maintain your facility, including air pollution control and monitoring equipment, to minimize emissions and correct malfunctions as soon as practicable. • Control devices and/or overall control efficiency or PTE options: establish an operating range that corresponds to the levels described in Figure E-2.	63.5990(a) 63.5990(b) 63.6000(b)(1)(ii), (e)(3)	Must operate according to these requirements on and after date on which initial performance test is conducted or required to be conducted, whichever is earlier: • Existing sources: No later than the compliance date • New sources that startup on effective date or later: Within 180 days after the compliance date • New sources that startup between 10/18/2000 and the effective date: Within 180 days after the effective date or within 180 days from startup, whichever is later.	Initial performance test

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Monitoring Requirements– General	• Develop a site-specific monitoring plan that addresses for each monitoring system: • Installation of monitoring devices • Inspection of system performance, i.e., meets compliance limits. • Inspection of equipment operation. • Validation of performance of data collection and reduction systems. • Calibrations, i.e., performance evaluation procedures and acceptance criteria.	63.5990(e)	• On compliance date.	Compliance date.
	• Ongoing operation and maintenance procedures. • Ongoing data quality assurance procedures. • Ongoing recordkeeping and reporting. procedures.	63.5990(f)		
	• Monitor continuously (or collect data at all required intervals) while the affected source is operating, including periods of startup, shutdown, and malfunction when the affected source is operating. except for: • Periods of monitoring malfunctions, • Associated repairs, and • Required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments).	63.6007(b)	• On compliance date or initial compliance demonstration, whichever is earlier.	Compliance date or initial compliance demonstration.

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Monitoring Requirements– Control Device Systems (See Figure G)	• For each operating parameter that you are required to monitor, you must install, operate, and maintain a continuous parameter monitoring system (CPMS) according to your monitoring plan. See Figure G.
	• Thermal oxidizer: Monitor the firebox secondary chamber temperature.
	• Carbon adsorber: Monitor the total regeneration stream mass or volumetric flow for each regeneration cycle, and the carbon bed temperature after each regeneration, and within 15 minutes of completing any cooling cycle.
	• Other control devices: Install and operate a continuous parameter monitoring system (CPMS) according to your site-specific performance test plan.
	• Permanent total enclosure:
	  • Monitor the face velocity across the natural draft openings (NDO) in the enclosure.
	  • Monitor the enclosure to ensure that the sizes of the NDO have not changed, that there are no new NDO.
	  • Monitor the enclosure to ensure that a HAP emission source has not been moved closer to an NDO since the last compliance demonstration was conducted.
	• Other Capture Systems: Monitor the parameters identified in your monitoring plan.
		63.6001
		63.6000(b)(3)(i)
		63.6000(b)(3)(ii)
		63.6000(b)(3)(iii)
		63.6000(b)(3)(iv)
		63.6000(b)(3)(v)
			See ***Monitoring Requirements–General***	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Reporting Requirements	• Submit initial notification.	63.6009(b) 63.6009(c) 63.6009(b)	• Existing sources: Within 120 days after the effective date. • New Sources: Startup on effective date or later: Within 120 days from startup. • Startup between 10/18/2000 and the effective date: Within 120 days after the effective date.	Effective date or startup.
	• Notification of intent to conduct a performance test.	63.6009(d)	• 60 days before test.	
	• Notification of compliance status.	63.6002(b), 63.6009(e)(1),(e)(2)	• For performance tests: Within 60 days following completion of the performance test. • For compliance demonstrations without performance tests: Within 30 days following completion of the initial compliance demonstration.	
	• Subsequent compliance reports.	63.6010(b)	• By July 31or January 31, whichever date follows the first full calendar half year after the compliance date, and semiannually on July 31 and January 31 thereafter, ***or*** • the dates established by the permitting authority, if you are subject to 40 CFR pt 70 or 71 permitting requirements.	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger
Reporting Requirements (continued)	• Site-specific monitoring plan.	63.5990(e)	• Compliance date.	Compliance date.
	• Immediate revised startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period that is not consistent with your startup, shutdown, and malfunction plan (SSMP) and actions taken for the event.	63.6010(c)(4), Table 15	• Within two working days after starting actions inconsistent with the plan (by fax or telephone).	Incident.
	• A follow-up report to the startup, shutdown, and malfunction plan incident explaining the circumstances of the event, the reasons for not following the plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.	63.6010(c)(4), Table 15	• Within 7 working days after the end of the event (by letter) unless you have made alternative arrangements with the permitting authority	

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Recordkeeping Requirements	• For compliance with the monthly average compliance alternative without using a control device:
	  • A record of Method 311, or approved alternative method, test results, indicating the mass percent of each HAP for each puncture sealant used.
	  • The mass of puncture sealant used each monthly operating period.
	  • All data and calculations used to determine the monthly average mass percent for each HAP for each monthly operating period.
	  • Monthly averages of emissions in the appropriate emission limit format.
		Table 13, 63.5989(c)	• By compliance date or initial compliance demonstration, whichever is earlier.	Compliance date or initial compliance demonstration.

	• For compliance with the monthly average compliance alternative using a control device.
	  • The same information as sources complying with the monthly average alternative without using a control device.
	  • Records of operating parameter values for each operating parameter that applies to your facility.
		Table 13, 63.5989(d)	• By compliance date or initial compliance demonstration, whichever is earlier.	Compliance date or initial compliance demonstration.

	• For compliance with the control efficiency alternatives: • With thermal oxidziers: Records of the secondary chamber firebox temperature for 100 percent of the hours during which the process was operated.	Table 13, 63.5989(a) or (b)	• By compliance date or initial compliance demonstration, whichever is earlier.	Compliance date or initial compliance demonstration.

Item	Requirement(s)	40 CFR Section	Deadline/Frequency	Trigger

Recordkeeping Requirements (continued)	• For compliance with the control efficiency alternatives (continued):
	  • With carbon absorbers: Records of the total regeneration stream mass or volumetric flow for each regeneration cycle for 100 percent of the hours during which the process was operated, carbon bed temperature after each regeneration, and within 15 minutes of completing any cooling cycle for 100 percent of the hours during which the process was operated.
	  • With PTE's: Records of the face velocity across any NDO, the size of NDO, the number of NDO, and their proximity to HAP emission sources.
	  • For all other control and capture systems: Records of operating parameter values for each operating parameter that applies to your facility.
			• By compliance date or initial compliance demonstration, whichever is earlier.	Compliance date or initial compliance demonstration .

	• Maintain a log detailing the operation and maintenance of the process and emission control equipment.	63.5990(c)	• During the period between your facility's compliance date and the date upon which continuous compliance monitoring systems have been installed and validated and any applicable operating limits have been set.	Compliance date.
	• The results for each inspection, calibration, and validation check of your CPMS, as specified in your site-specific monitoring plan.	63.6001	• As specified in monitoring plan.	Compliance date.

E-3. Puncture Sealant Application--Formulas for Compliance Demonstration

Use Formula E-1 to calculate the overall efficiency of the control system to show that the source is complying with the percent reduction requirements in Table 3 to subpart XXXX, option 1 (also outlined in Chart E-1 of this document). If you have a permanent total enclosure that satisfies EPA Method 204 (found in 40 CFR part 51, appendix M) criteria, assume 100 percent capture efficiency for variable F.

Formula E-1

$$R = \frac{(F)(E)}{100}$$

Where:

R = overall control system efficiency, percent.
F = capture efficiency of the capture system on add-on control device, percent, determined during the performance test.
E = control efficiency of add-on control device k, percent, determined during the performance test.

E-3. Puncture Sealant Application-- Formulas for Compliance Demonstration (continued)

Use Formula E-2 to calculate the monthly average HAP emission rate when complying by using puncture sealants without using an add-on control device to show that the monthly average HAP emissions do not exceed the emission limits in Table 3 to subpart XXXX, option 2 (also outlined in Chart E-1 of this document).

Formula E-2

$$E_{month} = \frac{\left(\sum_{i=1}^{n} \left(HAP_i\right)\left(TPSEAL_i\right)\right)\left(10^6\right)}{\sum_{i=1}^{n} TPSEAL_i}$$

Where:

E_{month}	=	mass of the specific HAP emitted per total mass of puncture sealants from all puncture sealants used at the puncture sealant affected source per month, grams per megagram.
HAP_i	=	mass percent, expressed as a decimal, of the specific HAP in puncture sealant i, including any application booth dilution.
$TPSEAL_i$	=	total mass of puncture sealant i used in the month, grams.
n	=	number of puncture sealants used in the month.

E-3. Puncture Sealant Application-- Formulas for Compliance Demonstration (continued)

Use Formula E-3 to calculate the monthly average HAP emission rate when complying by using puncture sealants by using an add-on control device to show that the monthly average HAP emissions do not exceed the emission limits in Table 3 to subpart XXXX, option 2 (also outlined in Chart E-1 of this document).

Formula E-3

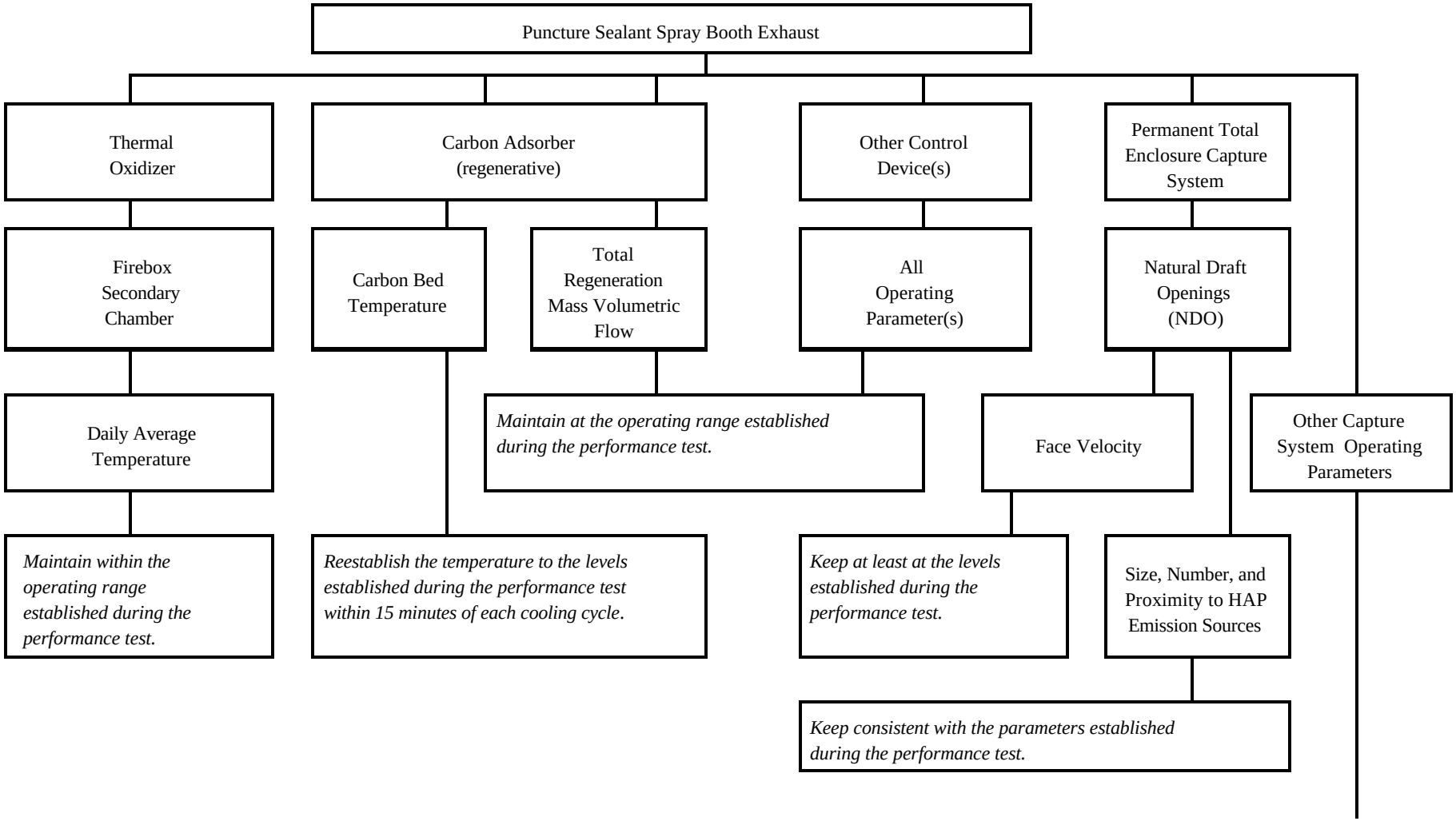
$$E_{month} = \frac{\left\{\sum_{i=1}^{n}\left(HAP_i\right)\left(TPSEAL_i\right)+\sum_{j=1}^{m}\left(HAP_j\right)\left(TPSEAL_j\right)\left(1-\frac{EFF}{100}\right)+\sum_{k=1}^{p}\left(HAP_k\right)\left(TPSEAL_k\right)\right\}\left(10^6\right)}{\sum_{i=1}^{n}TPSEAL_i+\sum_{j=1}^{m}TPSEAL_j+\sum_{k=1}^{p}TPSEAL_k}$$

Where:

E_{month}	=	mass of the specific HAP emitted per total mass of puncture sealants used at the puncture sealant affected source per month, grams per megagram.
HAP_i	=	mass percent, expressed as a decimal, of the specific HAP in puncture sealant i, including any application booth dilution, for puncture sealants used in the month in processes that are not routed to a control device.
$TPSEAL_i$	=	total mass of puncture sealant i used in the month in processes that are not routed to a control device, gram.
n	=	number of puncture sealants used in the month in processes that are not routed to a control device.
HAP_j	=	mass percent, expressed as a decimal, of the specific HAP, in puncture sealant j, including any application booth dilution, for puncture sealants used in the month in processes that are routed to a control device during operating days, which are defined as days when the control system is operating within the operating range established during the performance test and when monitoring data are collected.
$TPSEAL_j$	=	total mass of total mass of puncture sealant j used in the month in processes that are routed to a control device during all operating days, grams.
EFF	=	efficiency of the control system determined during the performance test (capture system efficiency multiplied by the control device efficiency), percent.
m	=	number of puncture sealants used in the month that are routed to a control device during all operating days.

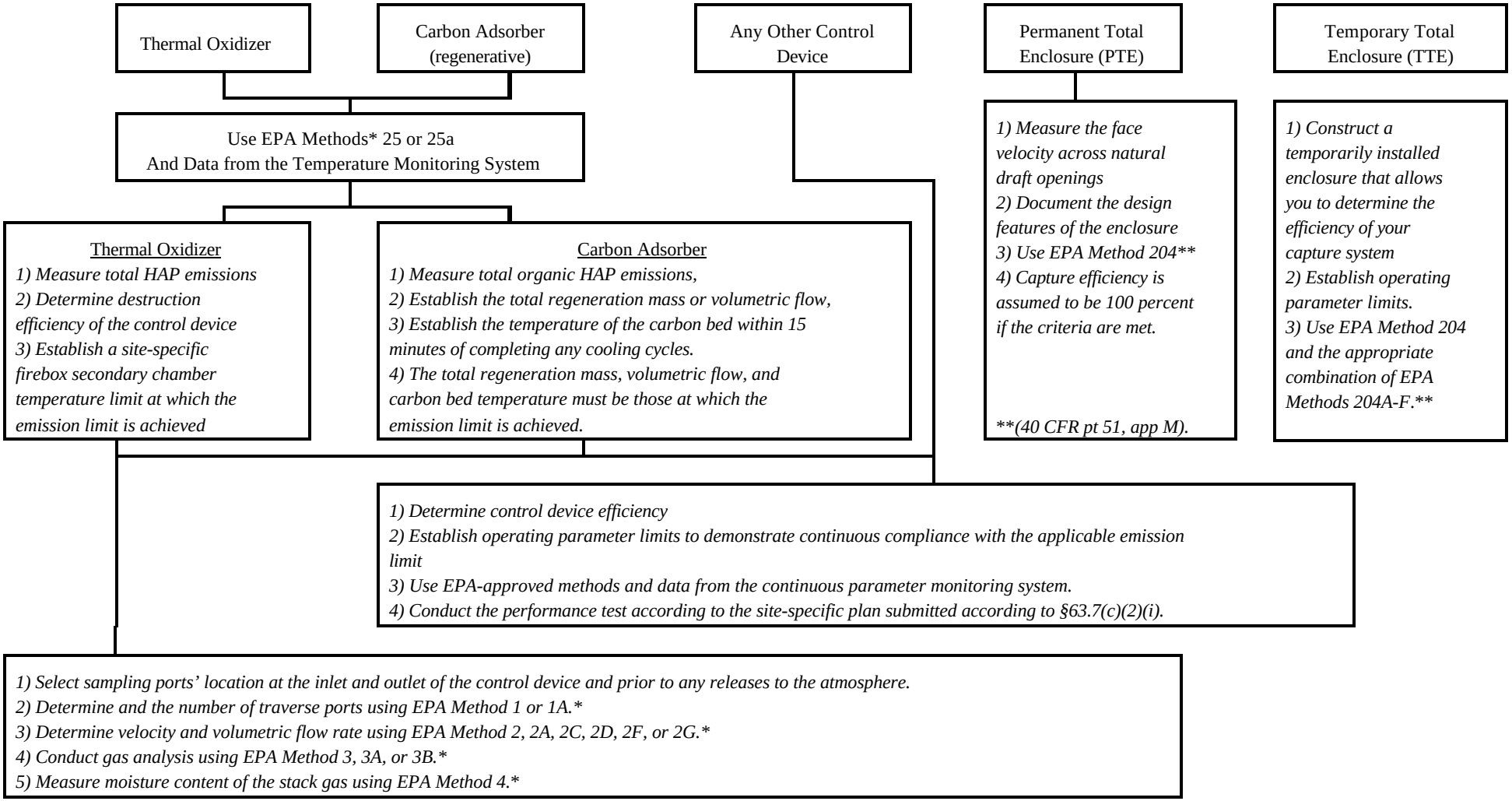
HAP_k	=	mass percent, expressed as a decimal, of the specific HAP, in puncture sealant k, including any application booth dilution, for puncture sealants used in the month in processes that are routed to a control device during non-control operating days, which are defined as days when either the control system is not operating within the operating range established during the performance test or when monitoring data are not collected.
$TPSEAL_k$	=	total mass of total mass of puncture sealant k used in the month in processes that are routed to a control device during all non-control operating days, grams.
m	=	number of puncture sealants used in the month that are routed to a control device during all non-control operating days.

E-4. Figure E-2: Puncture Sealant Application Control Devices--Operating Limits



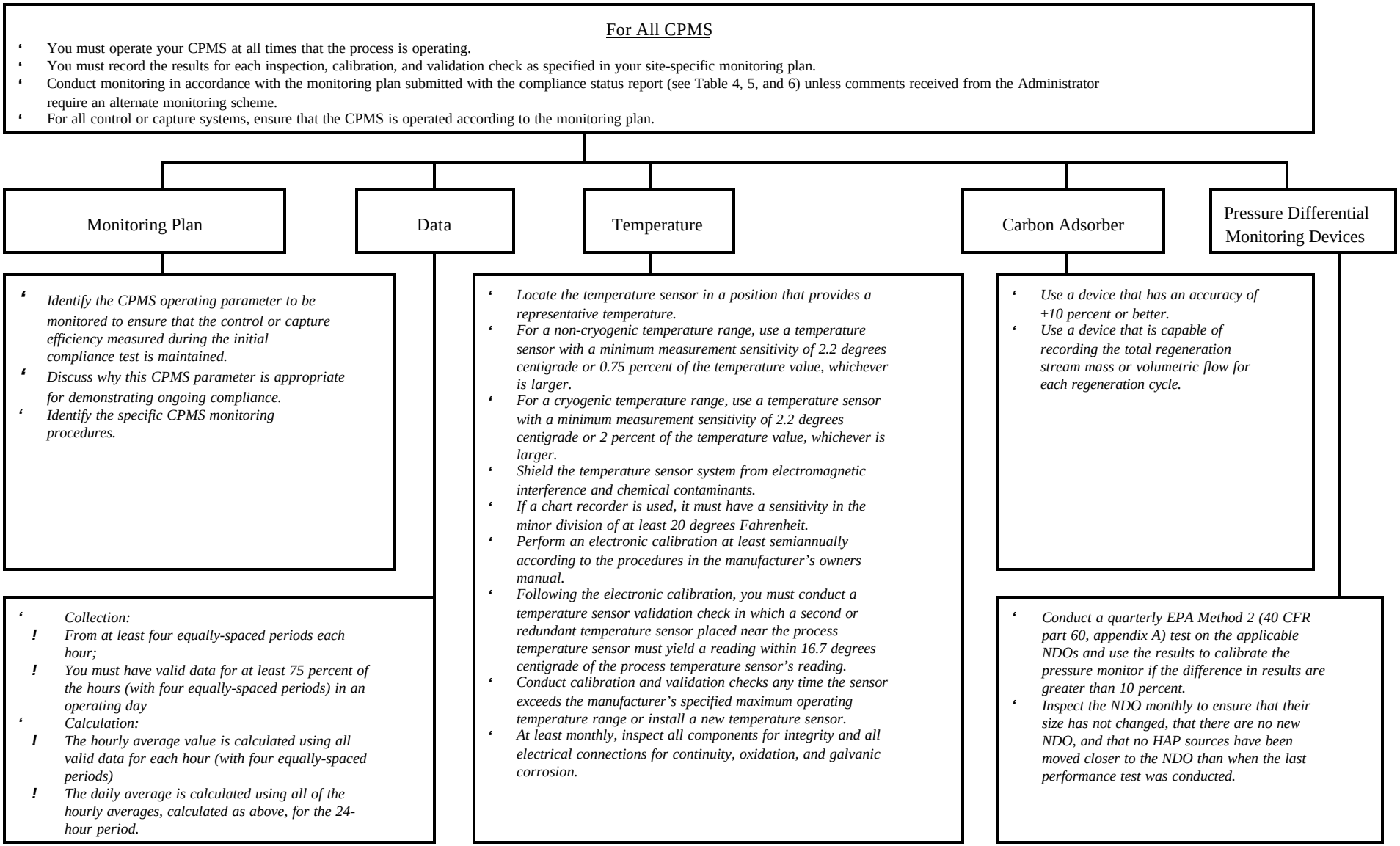
Maintain within the range(s) established during the performance test and according to your monitoring plan.

F. Figure F: Summary of Performance Test Requirements for the Rubber Tire Manufacturing NESHAP



* These EPA Methods can be found in 40 CFR pt. 60, app. A.

G. Figure G: Continuous Parametric Monitoring Systems (CPMS) Requirements for the Rubber Tire Manufacturing NESHAP



Appendix 1 - Rubber Tire Facilities (from 1999 NTI Database)

State	County	Facility Name	Address
AL	Madison	Dunlop Tire Corporation	35824
AL	Etowah	Goodyear Tire & Rubber Company	922 E Meighan Blvd. East Gadson, AL 35903
AL	Lee	Michelin N.A. Inc.	1800 Crawford Rd. Hwy 169 Opelika, AL 36804
AL	Dale	Michelin N.A. Inc.	3792 Mance Newton Rd Dothan, AL 36302-0040
AL	Tuscaloosa	Michelin N.A. Inc	5101 21st St. Tuscaloosa, AL 35401
AL	Dale	Michelin Tire Corporation	Wayne Newton Rd. Hwy 231N Dothan, AL 36302
AL	Etowah	Goodyear Tire & Rubber Company, Gadsden Plant	922 E. Meighgan Blvd. Gadsden, AL 35903
AL	Lee	Uniroyal Goodrich Tire Co., Opelika Plant	1800 Crawford HWY 169 Opelika, AL 36804
AL	Tscaloosa	Uniroyal Goodrich Tire Co., Tuscaloosa Plant	5101 21st Street Tuscaloosa, AL 35401

State	County	Facility Name	Address
AR	Miller	Cooper Tire & Rubber Co.	3500 Washington Rd. Texarkana, AR 71854-5894
CA	San Bernardino	Bandag Inc.	4950 Edison Ave Chino, CA 91710
CA	Sacramento	Broadway Tire, Inc.	3418 52nd Ave. Sacramento, CA 95823
CA	Sacramento	Goodyear Retread Plant	147 Commerce Circle Sacramento, CA 95815
CA	Alameda	Oliver Rubber Company	1200 65th Street Oakland, CA 94662
CA	Los Angeles	Parkhouse Tire Inc.	5960 Shull St. Bell Gardens, CA 90201-6235
CA	Kings	Pirelli Armstrong Tire Corporation	10701 Idaho Ave. Hanford, CA 93230
CA	Los Angeles	Truflex Rubber Products Co.	1667 N. Main St. Los Angeles, CA 90012
CA	Orange	West American Rubber Co., Inc.	750 N. Main St. Orange, CA 92668-1184

State	County	Facility Name	Address
CO	Denver	A&E Tire	3855 E. 52nd St. Denver, CO 80216
CO	Denver	Cyclo Manufacturing Co.	1438 S. Cherokee St. Denver, CO 80223-3211
CO	Weld	Tire Centers Inc.	22303 I76 Frontage Rd. Hudson, CO 80642
FL	Miami-Dade	Bridgestone Aircraft Tire (USA), Inc.	7775 NW 12th St. Miami, FL 33126
FL	Clay	Progress Rail Services Corporation	S SR 16E US 17/1500 Bunker Ave. Green Cove Springs, FL 32043
FL		Thompson Aerospace, Inc.	
GA	Dougherty	Cooper Tire Co.	3300 Sylvester Rd. Albany, GA 31705
IA	Polk	Firestone Agricultural Tire Co.	2nd Ave. & Hoffman Rd. Des Moines, IA 50313
IA	Polk	Titan Tire Corp.	2345 E. Market St. Des Moines, IA 50317
IL	McLean	Bridgestone/Firestone Off-road Tire Co.	Veterans Parkway & Fort Jess Bloomington, IL 61702

State	County	Facility Name	Address
IL	Macon	Bridgestone/Firestone, Inc.	2500 North 22nd St. Decatur, IL 62526
IL	Jefferson	Continental General Tire Inc.	11525 N. IL HWY 142 Mount Vernon, IL 62864
IL	Jefferson	Continental General Tire Inc.	HWY 142 S Box 1029 Mount Vernon, IL 62864
IL	Stephenson	Kelly-Springfield Tire Co.	3769 Route 20 East Freeport, IL 61032
IN	Marshall	Hoosier Tire & Rubber	2307 Pidco Dr. Plymouth, IN 46563
IN	Marshall	Hoosier Tire & Rubber	1420 Stanley Dr. Plymouth, IN 46563
IN	Allen	Michelin N.A., Inc.	18906 US 24 E. Woodburn, IN 46797-0277
IN	Pulaski	Plymouth Tube Company	700 West 11th St. Winamac, IN 46996
IN	Allen	Uniroyal Goodrich Tire Co.	
IN	Allen	Uniroyal Goodrich Tire Mfg	18906 US 24E Woodburn, IN 46797-0277

State	County	Facility Name	Address
KS	Shawnee	Goodyear Tire & Rubber Company	2000 NW HWY #24 Topeka, KS
KS	Harper	Morrison Company, Inc.	396 W. Hwy 2 Anthony, KS 67003
KY	Graves	Continental General Tire	One General St. Mayfield, KY 42066
ME	Cumberland	Maine Rubber International Main Plant	942 Main St. Westbrook, ME 04092
MO	St. Louis	Cupples Rubber Co.	St. Louis, MO 63132
MO	Carroll	Orbseal, Inc.	
MS	Coahoma	Cooper Tire Co.	2205 Martin Luther King Dr. Clarksdale, MS 38614
MS	Lee	The Cooper Tire Co.	1804 S. Green St. Tupelo, MS 38801
MS	Adams	Titan Tire Corporation of Natchez	89 Kelly Ave. Natchez, MS 39120
NC	Granville	Bandag Corporation	505 West Industry Dr. Oxford, NC 27565
NC	Guilford	Black Bros. Southeastern Service, Inc.	1315 Baker Rd. High Point, NC 27263

State	County	Facility Name	Address
NC	Wilson	Bridgestone/Firestone, Inc.	Firestone Pwky Wilson, NC 27893-0193
NC	Mecklenburg	Continental General Tire, Inc.	1900 Continental Blvd Charlotte, NC 28273
NC	Mecklenburg	General Tire Inc.	
NC	Cumberland	Kelly-Springfield Tire Co. A Division of Goodyear Tire	6650 Ramsey St. Fayetteville, NC 28311
NC	Stanly	Michelin Aircraft Tire Co.	40589 South Stanly Sch Rd. Norwood, NC 28128
NC	Randolph	Oliver Rubber Co.	408 Telephone Ave. Asheboro, NC 27203
NC	Halifax	Patch Rubber Company	Industrial Park Roanoke Rapids, NC 27870
NC	Wilson	Whites Tire Service, Inc.	406 South Pender St Wilson, NC 27893
NY	Westchester	County Tire and Recapping Inc.	
NY	Erie	Dunlop	
NY	Erie	Goodyear Dunlop Tires, North American Ltd.	10 Sheridan Dr. Tonawanda, NY 14150

State	County	Facility Name	Address
OH	Summit	Bridgestone/Firestone, Inc. Akron Technical Center	1200 Firestone Pky Akron, OH 44317
OH	Hancock	Cooper Tire Co.	701 Lima Ave Findlay, OH 45840
OH	Trumbull	Denman Tire Corporation	400 Diehl South Rd. Leavittsburg, OH 44430
OH	Summit	Goodyear Tire & Rubber, Plant 11	
OH	Summit	Goodyear Tire & Rubber Co. - Powerhouse	200 S. Martha Ave. Akron, OH 44309
OH	Summit	Goodyear Tire & Rubber Co., Akron Mix Center	1080 River St. Akron, OH 44309
OH	Licking	Tech Intl.	200 E. Coshocton St. Johnstown, OH 43031
OH	Portage	Trelleborg Wheel Ssytem Americas, Inc.	61 State Rte. 43N Hartville, OH 44632
OK	Oklahoma	Bridgestone/Firestone, Inc., Dayton Tire Division	2500 S. Council Rd. Oklahoma City, OK 73128
OK	Oklahoma	Dayton Tire	PO BOX 24011 Oklahoma City, OK 73124

State	County	Facility Name	Address
OK	Comanche	Goodyear Tire & Rubber Co.	1 Goodyear Blvd Lawton, OK 73505-9799
OK	Carter	Michelin N.A. Ardmore Plant	1101 Uniroyal Rd. Ardmore, OK 73401
OK	Muskogee	Schrader Bridgeport Intl. N.A. Operation	500 45th St. E. Muskogee, OK 74403
PA	Cumberland	Carlisle Tire & Wheel	621 N. College St. Carlisle, PA 17013
PA	Warren	Superior Tire & Rubber Corp.	1818 Pennsylvania Ave. W. Warren, PA 16365
SC	Aiken	Bridgestone/Firestone	1 Bridgestone Pkwy Graniteville, SC 29829
SC	Spartanburg	Goodyear Tire & Rubber co.	1095 Simuel Rd. Spartanburg, SC 29301-4398
SC	Spartanburg	Goodyear: Spartanburg	Sigsbee Rd & I-85 Spartanburg, SC 29301
SC	Spartanburg	Michelin N.A. Inc.	1000 International Dr. Spartanburg, SC 29304-5049

State	County	Facility Name	Address
SC	Greenville	Michelin N.A., Inc.	1401 Antioch Church Rd. Greenville, SC 29602-2846
SC	Lexington	Michelin N.A. Inc.	2420 Two Notch Rd. Lexington, SC 29072-0579
SC	Anderson	Michelin: Sandy Spring	HWY 76 Anderson, SC 29677
TN	Warren	Bridgestone/Firestone Inc. Warren Plant	Hwy 55 & Old Well Rd. Morrison, TN 37357
TN	Obion	Goodyear Tire & Rubber Co.	3260 Brevard Rd. Union City, TN 38261
TN	Davidson	Pirelli-Armstrong	
TN	Anderson	Titan Tire Corporation of Tennessee	520 J.D. Yarnell Ind. Pkwy. Clinton, TN 37716
TX	Taylor	Bandag, Inc.	
TX	Caldwell	Durol Western Manufacturing, Inc.	5000 E. Pierce Luling, TX 78648
TX	Orange	Firestone Synthetic Rubber & Latex	
TX	Harris	Goodyear Tire & Rubber Company	

State	County	Facility Name	Address
TX	Dallas	Oliver Rubber Co.	6820 Forest Park Rd. Dallas, TX 75235
TX	Collin	Par Products	
TX	Cherokee	Poly Cycle Industries Inc.	
TX	Dallas	Souther Tire Mart	
VA	Pittsylvania	Goodyear Tire & Rubber Co.	1901 Goodyear Blvd. Danville, VA 24541-66077
VA	Roanoke	Yokohama Tire Corp.	1500 Indiana St. Salem, VA 24153
WI	Racine	American Roller Company	