

Reference	Applies to Subpart CCC	Explanation
63.10(d)(5)	No.	Subpart CCC does not require the use of flares.
63.10(e)-(f)	Yes.	
63.11	No	
63.12-63.15	Yes.	

[64 FR 33218, June 22, 1999, as amended at 77 FR 58252, Sept. 19, 2012]

Subpart DDD—National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production

SOURCE: 64 FR 29503, June 1, 1999, unless otherwise noted.

§ 63.1175 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants emitted from existing, new, and reconstructed cupolas and curing ovens at facilities that produce mineral wool.

§ 63.1176 Where can I find definitions of key words used in this subpart?

The definitions of key words used in this subpart are in the Clean Air Act (Act), in § 63.2 of the general provisions in subpart A of this part, and in § 63.1196 of this subpart.

§ 63.1177 Am I subject to this subpart?

You are subject to this subpart if you own or operate an existing, new, or reconstructed mineral wool production facility that is located at a plant site that is a major source of hazardous air pollutant (HAP) emissions, meaning the plant emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAPs at a rate of 22.68 megagrams (25 tons) or more per year.

STANDARDS

§ 63.1178 For cupolas, what standards must I meet?

- (a) You must control emissions from each cupola as follows:
 - (1) Limit emissions of particulate matter (PM) from each existing, new, or reconstructed cupola to 0.05 kilo-

grams (kg) of PM per megagram (MG) (0.10 pound [lb] of PM per ton) of melt or less.

(2) Limit emissions of carbon monoxide (CO) from each new or reconstructed cupola to either of the following:

(i) 0.05 kg of CO per MG (0.10 lb of CO per ton) of melt or less.

(ii) A reduction of uncontrolled CO emissions by at least 99 percent.

(b) You must meet the following operating limits for each cupola:

(1) Begin within one hour after the alarm on a bag leak detection system sounds, and complete in a timely manner, corrective actions as specified in your operations, maintenance, and monitoring plan required by § 63.1187 of this subpart.

(2) When the alarm on a bag leak detection system sounds for more than five percent of the total operating time in a six-month reporting period, develop and implement a written quality improvement plan (QIP) consistent with the compliance assurance monitoring requirements of § 64.8(b)-(d) of 40 CFR part 64.

(3) Additionally, for each new or reconstructed cupola, maintain the operating temperature of the incinerator so that the average operating temperature for each three-hour block period never falls below the average temperature established during the performance test.

§ 63.1179 For curing ovens, what standards must I meet?

(a) You must control emissions from each existing, new, or reconstructed curing oven by limiting emissions of formaldehyde to either of the following:

(1) 0.03 kg of formaldehyde per MG (0.06 lb of formaldehyde per ton) of melt or less.

(2) A reduction of uncontrolled formaldehyde emissions by at least 80 percent.

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(b) You must meet the following operating limits for each curing oven:

(1) Maintain the free-formaldehyde content of each resin lot and the formaldehyde content of each binder formulation at or below the specification ranges of the resin and binder used during the performance test.

(2) Maintain the operating temperature of each incinerator so that the average operating temperature for each three-hour block period never falls below the average temperature established during the performance test.

§ 63.1180 When must I meet these standards?

(a) *Existing cupolas and curing ovens.* You must install any control devices and monitoring equipment necessary to meet the standards in this subpart, complete performance testing, and demonstrate compliance with all requirements of this subpart no later than the following:

(1) June 2, 2002; or

(2) June 3, 2003 if you apply for and receive a one-year extension under section 112(i)(3)(B) of the Act.

(b) *New and reconstructed cupolas and curing ovens.* You must install any control devices or monitoring equipment necessary to meet the standards in this subpart, complete performance testing, and demonstrate compliance with all requirements of this subpart by the dates in § 63.7 of the general provisions in subpart A of this part.

(c) You must comply with the standards in §§ 63.1178 and 63.1179 of this subpart on and after the dates in paragraphs (a) and (b) of this section.

(d) You must comply with these standards at all times except during periods of startup, shutdown, or malfunction.

COMPLIANCE WITH STANDARDS

§ 63.1181 How do I comply with the particulate matter standards for existing, new, and reconstructed cupolas?

To comply with the PM standards, you must meet all of the following:

(a) Install, adjust, maintain, and continuously operate a bag leak detection system for each fabric filter.

(b) Do a performance test as specified in § 63.1188 of this subpart and show

compliance with the PM emission limits while the bag leak detection system is installed, operational, and properly adjusted.

(c) Begin corrective actions specified in your operations, maintenance, and monitoring plan required by § 63.1187 of this subpart within one hour after the alarm on a bag leak detection system sounds. Complete the corrective actions in a timely manner.

(d) Develop and implement a written QIP consistent with compliance assurance monitoring requirements of 40 CFR 64.8(b) through (d) when the alarm on a bag leak detection system sounds for more than five percent of the total operating time in a six-month reporting period.

§ 63.1182 How do I comply with the carbon monoxide standards for new and reconstructed cupolas?

To comply with the CO standards, you must meet all of the following:

(a) Install, calibrate, maintain, and operate a device that continuously measures the operating temperature in the firebox of each thermal incinerator.

(b) Do a performance test as specified in § 63.1188 of this subpart and show compliance with the CO emission limits while the device for measuring incinerator operating temperature is installed, operational, and properly calibrated. Establish the average operating temperature as specified in § 63.1185(a) of this subpart.

(c) Following the performance test, measure and record the average operating temperature of the incinerator as specified in § 63.1185(b) of this subpart.

(d) Maintain the operating temperature of the incinerator so that the average operating temperature for each three-hour block period never falls below the average temperature established during the performance test.

(e) Operate and maintain the incinerator as specified in your operations, maintenance, and monitoring plan required by § 63.1187 of this subpart.

§ 63.1183 How do I comply with the formaldehyde standards for existing, new, and reconstructed curing ovens?

To comply with the formaldehyde standards, you must meet all of the following:

(a) Install, calibrate, maintain, and operate a device that continuously measures the operating temperature in the firebox of each thermal incinerator.

(b) Do a performance test as specified in § 63.1188 of this subpart while manufacturing the product that requires a binder formulation made with the resin containing the highest free-formaldehyde content specification range. Show compliance with the formaldehyde emission limits while the device for measuring incinerator operating temperature is installed, operational, and properly calibrated. Establish the average operating temperature as specified in § 63.1185(a) of this subpart.

(c) During the performance test that uses the binder formulation made with the resin containing the highest free-formaldehyde content specification range, record the free-formaldehyde content specification range of the resin used, and the formulation of the binder used, including the formaldehyde content and binder specification.

(d) Following the performance test, monitor and record the free-formaldehyde content of each resin lot and the formulation of each batch of binder used, including the formaldehyde content.

(e) Maintain the free-formaldehyde content of each resin lot and the formaldehyde content of each binder formulation at or below the specification ranges established during the performance test.

(f) Following the performance test, measure and record the average operating temperature of the incinerator as specified in § 63.1185(b) of this subpart.

(g) Maintain the operating temperature of the incinerator so that the average operating temperature for each three-hour block period never falls below the average temperature established during the performance test.

(h) Operate and maintain the incinerator as specified in your operations,

maintenance, and monitoring plan required by § 63.1187 of this subpart.

(i) With prior approval from the Administrator, you may do short-term experimental production runs using resin where the free-formaldehyde content, or binder formulations where the formaldehyde content, is higher than the specification ranges of the resin and binder used during previous performance tests, or using experimental pollution prevention process modifications without first doing additional performance tests. Notification of intent to perform a short-term experimental production run must include the following information:

(1) The purpose of the experimental run.

(2) The affected production process.

(3) How the resin free-formaldehyde content or binder formulation will deviate from previously approved levels or what the experimental pollution prevention process modifications are.

(4) The duration of the experimental run.

(5) The date and time of the experimental run.

(6) A description of any emissions testing to be done during the experimental run.

ADDITIONAL MONITORING INFORMATION

§ 63.1184 What do I need to know about the design specifications, installation, and operation of a bag leak detection system?

A bag leak detection system must meet the following requirements:

(a) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(b) The sensor on the bag leak detection system must provide output of relative PM emissions.

(c) The bag leak detection system must have an alarm that will sound automatically when it detects an increase in relative PM emissions greater than a preset level.

(d) The alarm must be located in an area where appropriate plant personnel will be able to hear it.

(e) For a positive-pressure fabric filter, each compartment or cell must

have a bag leak detector. For a negative-pressure or induced-air fabric filter, the bag leak detector must be installed downstream of the fabric filter. If multiple bag leak detectors are required (for either type of fabric filter), detectors may share the system instrumentation and alarm.

(f) Each triboelectric bag leak detection system must be installed, operated, adjusted, and maintained so that it follows EPA's "Fabric Filter Bag Leak Detection Guidance" (EPA-454/R-98-015, September 1997). Other bag leak detection systems must be installed, operated, adjusted, and maintained so that they follow the manufacturer's written specifications and recommendations.

(g) At a minimum, initial adjustment of the system must consist of establishing the baseline output in both of the following ways:

(1) Adjust the range and the averaging period of the device.

(2) Establish the alarm set points and the alarm delay time.

(h) After initial adjustment, the range, averaging period, alarm set points, or alarm delay time may not be adjusted except as specified in the operations, maintenance, and monitoring plan required by § 63.1187 of this subpart. In no event may the range be increased by more than 100 percent or decreased by more than 50 percent over a 365 day period unless a responsible official as defined in § 63.2 of the general provisions in subpart A of this part certifies in writing to the Administrator that the fabric filter has been inspected and found to be in good operating condition.

§ 63.1185 How do I establish the average operating temperature of an incinerator?

(a) During the performance test, you must establish the average operating temperature of an incinerator as follows:

(1) Continuously measure the operating temperature of the incinerator.

(2) Determine and record the average temperatures in consecutive 15-minute blocks.

(3) Determine and record the arithmetic average of the recorded average temperatures measured in consecutive

15-minute blocks for each of the one-hour performance test runs.

(4) Determine and record the arithmetic average of the three one-hour average temperatures during the performance test runs. The average of the three one-hour performance test runs establishes the temperature level to use to monitor compliance.

(b) To comply with the requirements for maintaining the operating temperature of an incinerator after the performance test, you must measure and record the average operating temperature of the incinerator as required by §§ 63.1182 and 63.1183 of this subpart. This average operating temperature of the incinerator is based on the arithmetic average of the one-hour average temperatures for each consecutive three-hour period and is determined in the same manner described in paragraphs (a)(1) through (a)(4) of this section.

§ 63.1186 How may I change the compliance levels of monitored parameters?

You may change control device and process operating parameter levels established during performance tests and used to monitor compliance if you do the following:

(a) You must notify the Administrator of your desire to expand the range of a control device or process operating parameter level.

(b) Upon approval from the Administrator, you must conduct additional performance tests at the proposed new control device or process operating parameter levels. Before operating at these levels, the performance test results must verify that, at the new levels, you comply with the emission limits in §§ 63.1178 and 63.1179 of this subpart.

§ 63.1187 What do I need to know about operations, maintenance, and monitoring plans?

(a) An operations, maintenance, and monitoring plan must be submitted to the Administrator for review and approval as part of your application for the title V permit.

(b) The operations, maintenance, and monitoring plan must include the following:

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(1) Process and control device parameters you will monitor to determine compliance, along with established operating levels or ranges for each process or control device.

(2) A monitoring schedule.

(3) Procedures for properly operating and maintaining control devices used to meet the standards in §§ 63.1178 and 63.1179 of this subpart. These procedures must include an inspection of each incinerator at least once per year. At a minimum, you must do the following as part of an incinerator inspection:

(i) Inspect all burners, pilot assemblies, and pilot sensing devices for proper operation. Clean pilot sensor if necessary.

(ii) Ensure proper adjustment of combustion air, and adjust if necessary.

(iii) Inspect, when possible, all internal structures (such as baffles) to ensure structural integrity per the design specifications.

(iv) Inspect dampers, fans, and blowers for proper operation.

(v) Inspect motors for proper operation.

(vi) Inspect, when possible, combustion chamber refractory lining. Clean, and repair or replace lining if necessary.

(vii) Inspect incinerator shell for proper sealing, corrosion, and/or hot spots.

(viii) For the burn cycle that follows the inspection, document that the incinerator is operating properly and make any necessary adjustments.

(ix) Generally observe whether the equipment is maintained in good operating condition.

(x) Complete all necessary repairs as soon as practicable.

(4) Procedures for keeping records to document compliance.

(5) Corrective actions you will take if process or control device parameters vary from the levels established during performance testing. For bag leak detection system alarms, example corrective actions that may be included in the operations, maintenance, and monitoring plan include:

(i) Inspecting the fabric filter for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media, or otherwise repairing the control device.

(iv) Sealing off a defective fabric filter compartment.

(v) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.

(vi) Shutting down the process producing the particulate emissions.

PERFORMANCE TESTS AND METHODS

§ 63.1188 What performance test requirements must I meet?

You must meet the following performance test requirements:

(a) All monitoring systems and equipment must be installed, operational, and properly calibrated before the performance tests.

(b) Do a performance test, consisting of three test runs, for each cupola and curing oven subject to this subpart at the maximum production rate to demonstrate compliance with each of the applicable emission limits in §§ 63.1178 and 63.1179 of this subpart.

(c) Measure emissions of PM from each existing cupola.

(d) Measure emissions of PM and CO from each new or reconstructed cupola.

(e) Measure emissions of formaldehyde from each existing, new or reconstructed curing oven.

(f) Measure emissions at the outlet of the control device if complying with a numerical emission limit for PM, CO, or formaldehyde, or at the inlet and outlet of the control device if complying with a percent reduction emission limit for CO or formaldehyde.

(g) To determine the average melt rate, measure and record the amount of raw materials, excluding coke, charged into and melted in each cupola during each performance test run. Determine and record the average hourly melt rate for each performance test run. Determine and record the arithmetic average of the average hourly melt rates associated with the three performance test runs. The average hourly melt rate of the three performance test runs is used to determine compliance with the applicable emission limits.

(h) Compute and record the average emissions of the three performance test

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runs and use the equations in § 63.1190 of this subpart to determine compliance with the applicable emission limits.

(i) Comply with control device and process operating parameter monitoring requirements for performance testing as specified in this subpart.

§ 63.1189 What test methods do I use?

You must use the following test methods to determine compliance with the applicable emission limits:

(a) Method 1 in appendix A to part 60 of this chapter for the selection of the sampling port locations and number of sampling ports.

(b) Method 2 in appendix A to part 60 of this chapter for stack gas velocity and volumetric flow rate.

(c) Method 3 or 3A in appendix A to part 60 of this chapter for oxygen and carbon dioxide for diluent measurements needed to correct the concentration measurements to a standard basis.

(d) Method 4 in appendix A to part 60 of this chapter for moisture content of the stack gas.

(e) Method 5 in appendix A to part 60 of this chapter for the concentration of PM. Each PM test run must consist of a minimum run time of three hours and a minimum sample volume of 3.75 dscm (135 dscf).

(f) Method 10 in appendix A to part 60 of this chapter for the concentration of CO, using the continuous sampling option described in section 7.1.1 of the method. Each CO test run must consist of a minimum run time of one hour.

(g) Method 318 in appendix A to this part for the concentration of formaldehyde or CO.

(h) Method to determine the free-formaldehyde content of each resin lot in appendix A of this subpart.

§ 63.1190 How do I determine compliance?

(a) Using the results of the performance tests, you must use the following equation to determine compliance with the PM emission limit:

E = (C x O x K1) / P

where: E = Emission rate of PM, kg/Mg (lb/ton) of melt.

C = Concentration of PM, g/dscm (gr/dscf). Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr). K 51 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr). P = Average melt rate, Mg/hr (ton/hr).

(b) Using the results of the performance tests, you must use the following equation to determine compliance with the CO and formaldehyde numerical emission limits:

E = (C x MW x O x K1 x K2) / (K3 x P x 10^6)

where: E = Emission rate of measured pollutant, kg/Mg (lb/ton) of melt. C = Measured volume fraction of pollutant, ppm. MW = Molecular weight of measured pollutant, g/g-mole: CO = 28.01, Formaldehyde = 30.03. Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr). K1 = Conversion factor, 1 kg/1,000 g (1 lb/453.6 g). K2 = Conversion factor, 1,000 L/m^3 (28.3 L/ft^3). K3 = Conversion factor, 24.45 L/g-mole. P = Average melt rate, Mg/hr (ton/hr).

(c) Using the results of the performance tests, you must use the following equation to determine compliance with the CO and formaldehyde percent reduction performance standards:

%R = (Li - Lo) / Li x 100

where: %R = Percent reduction, or collection efficiency of the control device. Li = Inlet loading of pollutant, kg/Mg (lb/ton). Lo = Outlet loading of pollutant, kg/Mg (lb/ton).

NOTIFICATION, RECORDKEEPING, AND REPORTING

§ 63.1191 What notifications must I submit?

You must submit written notifications to the Administrator as required by § 63.9(b)-(h) of the general provisions in subpart A of this part. These notifications include, but are not limited to, the following:

(a) Notification that the following types of sources are subject to the standard:

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(1) An area source that increases its emissions so that it becomes a major source.

(2) A source that has an initial start-up before the effective date of the standard.

(3) A new or reconstructed source that has an initial startup after the effective date of the standard and doesn't require an application for approval of construction or reconstruction under § 63.5(d) of the general provisions in subpart A of this part.

(b) Notification of intention to construct a new major source or reconstruct a major source where the initial startup of the new or reconstructed source occurs after the effective date of the standard and an application for approval of construction or reconstruction under § 63.5(d) of the general provisions in subpart A of this part is required.

(c) Notification of special compliance obligations for a new source that is subject to special compliance requirements in § 63.6(b)(3) and (4) of the general provisions in subpart A of this part.

(d) Notification of a performance test at least 60 calendar days before the performance test is scheduled to begin.

(e) Notification of compliance status.

§ 63.1192 What recordkeeping requirements must I meet?

You must meet the following recordkeeping requirements:

(a) Maintain files of all information required by § 63.10(b) of the general provisions in subpart A of this part, including all notifications and reports.

(b) Maintain records of the following information also:

(1) Cupola production (melt) rate (Mg/hr (tons/hr) of melt).

(2) All bag leak detection system alarms. Include the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected.

(3) The free-formaldehyde content of each resin lot and the binder formulation, including formaldehyde content, of each binder batch used in the manufacture of bonded products.

(4) Incinerator operating temperature and results of incinerator inspections. For all periods when the average temperature in any three-hour block period fell below the average temperature established during the performance test, and all periods when the inspection identified incinerator components in need of repair or maintenance, include the date and time of the problem, when corrective actions were initiated, the cause of the problem, an explanation of the corrective actions taken, and when the cause of the problem was corrected.

(c) Retain each record for at least five years following the date of each occurrence, measurement, corrective action, maintenance, record, or report. The most recent two years of records must be retained at the facility. The remaining three years of records may be retained off site.

(d) Retain records on microfilm, on a computer, on computer disks, on magnetic tape disks, or on microfiche.

(e) Report the required information on paper or on a labeled computer disk using commonly available and compatible computer software.

§ 63.1193 What reports must I submit?

You must prepare and submit reports to the Administrator as required by this subpart and § 63.10 of the general provisions in subpart A of this part. These reports include, but are not limited to, the following:

(a) A performance test report, as required by § 63.10(d)(2) of the general provisions in subpart A of this part, that documents the process and control equipment operating parameters during the test period, the test methods and procedures, the analytical procedures, all calculations, and the results of the performance tests.

(b) A startup, shutdown, and malfunction plan, as described in § 63.6(e)(3) of the general provisions in subpart A of this part, that contains specific procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the emission

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standards. In addition to the information required by § 63.6(e)(3), your plan must include the following:

(1) Procedures to determine and record what caused the malfunction and when it began and ended.

(2) Corrective actions you will take if a process or control device malfunctions, including procedures for recording the actions taken to correct the malfunction or minimize emissions.

(3) An inspection and maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

(c) A report of each event as required by § 63.10(b) of the general provisions in subpart A of this part, including a report if an action taken during a start-up, shutdown, or malfunction is inconsistent with the procedures in the plan as described in § 63.6(e)(3) of the general provisions in subpart A of this part.

(d) An operations, maintenance, and monitoring plan as specified in § 63.1187 of this subpart.

(e) A semiannual report as required by § 63.10(e)(3) of the general provisions in subpart A of this part if measured emissions exceed the applicable standard or a monitored parameter varies from the level established during performance testing. The report must contain the information specified in § 63.10(c) of the general provisions, as well as the relevant records required by § 63.1192(b) of this subpart.

(f) A semiannual report stating that no excess emissions or deviations of monitored parameters occurred during the reporting period as required by § 63.10(e)(3)(v) of the general provisions in subpart A of this part if no deviations have occurred.

OTHER REQUIREMENTS AND INFORMATION

§ 63.1194 Which general provisions apply?

The general provisions in subpart A of this part define requirements applicable to all owners and operators affected by NESHAP in part 63. See Table 1 of this subpart for general provisions that apply (or don't apply) to you as an owner or operator subject to the requirements of this subpart.

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§ 63.1195 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§ 63.1177 through 63.1180.

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f), as defined in § 63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under § 63.8(f), as defined in § 63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f), as defined in § 63.90, and as required in this subpart.

[68 FR 37356, June 23, 2003]

§ 63.1196 What definitions should I be aware of?

Terms used in this subpart are defined in the Act, in § 63.2 of the general provisions in subpart A of this part, and in this section as follows:

Bag leak detection system means a monitoring device for a fabric filter that identifies an increase in particulate matter emissions resulting from a broken filter bag or other malfunction and sounds an alarm.

Bonded product means mineral wool to which a hazardous air pollutant-

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based binder (containing such hazardous air pollutants as phenol or formaldehyde) has been applied.

CO means, for the purposes of this subpart, emissions of carbon monoxide that serve as a surrogate for emissions of carbonyl sulfide, a compound included on the list of hazardous air pollutants in section 112 of the Act.

Cupola means a large, water-cooled metal vessel to which is charged a mixture of fuel, rock and/or slag, and additives. As the fuel is burned, the charged mixture is heated to a molten state for later processing to form mineral wool.

Curing oven means a chamber in which heat is used to thermoset a binder on the mineral wool fiber used to make bonded products.

Fabric filter means an air pollution control device used to capture particulate matter by filtering gas streams through fabric bags. It also is known as a baghouse.

Formaldehyde means, for the purposes of this subpart, emissions of formaldehyde that, in addition to being a HAP itself, serve as a surrogate for organic compounds included on the list of hazardous air pollutants in section 112 of the Act, including but not limited to phenol.

Hazardous air pollutant means any air pollutant listed in or pursuant to section 112(b) of the Act.

I means the owner or operator of a mineral wool production facility.

Incinerator means an enclosed air pollution control device that uses con-

trolled flame combustion to convert combustible materials to noncombustible gases.

Melt means raw materials, excluding coke, that are charged into the cupola, heated to a molten state, and discharged to the fiber forming and collection process.

Melt rate means the mass of molten material discharged from a single cupola over a specified time period.

Mineral wool means a fibrous glassy substance made from natural rock (such as basalt), blast furnace slag or other slag, or a mixture of rock and slag. It may be used as a thermal or acoustical insulation material or in the making of other products to provide structural strength, sound absorbency, fire resistance, or other required properties.

New source means any affected source the construction or reconstruction of which is commenced after May 8, 1997.

PM means, for the purposes of this subpart, emissions of particulate matter that serve as a surrogate for metals (in particulate or volatile form) on the list of hazardous air pollutants in section 112 of the Act, including but not limited to: antimony, arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium.

You means the owner or operator of a mineral wool production facility.

[76 FR 74708, Dec. 1, 2011]

§§ 63.1197–63.1199 [Reserved]

TABLE 1 TO SUBPART DDD OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART DDD OF PART 63

General provisions citation	Requirement	Applies to subpart DDD?	Explanation
63.1(a)(1)–(a)(4)	General Applicability	Yes.	
63.1(a)(5)		No	[Reserved].
63.1(a)(6)–(a)(8)		Yes.	
63.1(a)(9)		No	[Reserved].
63.1(a)(10)–(a)(14)		Yes.	
63.1(b)		Yes.	
63.1(c)(1)		Yes.	
63.1(c)(2)		Yes	Some plants may be area sources.
63.1(c)(3)		No	[Reserved].
63.1(c)(4)–(c)(5)		Yes.	
63.1(d)	Applicability of Permit Program ...	No	[Reserved].
63.1(e)		Yes.	
63.2		Yes	Additional definitions in § 63.1196.
63.3		Yes.	
	Definitions		
	Units and Abbreviations		

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General provisions citation	Requirement	Applies to subpart DDD?	Explanation
63.4(a)(1)–(a)(3)	Prohibited Activities	Yes.	[Reserved].
63.4(a)(4)		No	
63.4(a)(5)		Yes.	
63.4(b)–(c)	Circumvention/Severability	Yes.	
63.5(a)	Construction/Reconstruction Applicability.	Yes.	
63.5(b)(1)	Existing, New, Reconstructed Sources Requirements.	Yes.	[Reserved].
63.5(b)(2)		No	
63.5(b)(3)–(b)(6)		Yes.	
63.5(c)		No	[Reserved].
63.5(d)	Application for Approval of Construction/Reconstruction.	Yes.	[Reserved].
63.5(e)	Approval of Construction/Reconstruction.	Yes.	
63.5(f)	Approval of Construction/Reconstruction Based on State Review.	Yes.	
63.6(a)	Compliance with Standards and Maintenance Applicability.	Yes.	[Reserved].
63.6(b)(1)–(b)(5)	New and Reconstructed Sources Dates.	Yes.	
63.6(b)(6)		No	
63.6(b)(7)		Yes.	§ 63.1180 specifies compliance dates.
63.6(c)(1)	Existing Sources Dates	Yes	
63.6(c)(2)		Yes.	[Reserved].
63.6(c)(3)–(c)(4)		No	
63.6(c)(5)		Yes.	[Reserved].
63.6(d)		No	
63.6(e)(1)–(e)(2)	Operation & Maintenance Requirements.	Yes	§ 63.1187 specifies additional requirements.
63.6(e)(3)	Startup, Shutdown, and Malfunction Plan.	Yes.	[Reserved].
63.6(f)	Compliance with Emission Standards.	Yes.	
63.6(g)	Alternative Standard	Yes.	
63.6(h)	Compliance with Opacity/VE Standards.	No	Subpart DDD does not include VE/opacity standards.
63.6(i)(1)–(i)(14)	Extension of Compliance	Yes	§ 63.1180 specifies date.
63.6(i)(15)		No	[Reserved].
63.6(i)(16)		Yes.	[Reserved].
63.6(j)	Exemption from Compliance	Yes.	
63.7(a)	Performance Test Requirements Applicability.	Yes.	§ 63.1188 specifies additional requirements.
63.7(b)	Notification	Yes.	
63.7(c)	Quality Assurance/Test Plan	Yes.	
63.7(d)	Testing Facilities	Yes.	
63.7(e)	Conduct of Tests	Yes	
63.7(f)	Alternative Test Method	Yes.	
63.7(g)	Data Analysis	Yes.	
63.7(h)	Waiver of Tests	Yes.	
63.8(a)(1)	Monitoring Requirements Applicability.	Yes.	Subpart DDD does not require CMS performance specifications.
63.8(a)(2)		No	
63.8(a)(3)		No	
63.8(a)(4)		Yes.	[Reserved].
63.8(b)	Conduct of Monitoring	Yes.	Subpart DDD does not require COMS or CMS performance specifications.
63.8(c)(1)–(c)(3)	CMS Operation/Maintenance	Yes.	
63.8(c)(4)–(c)(8)		No	
63.8(d)	Quality Control	No	
63.8(e)	CMS Performance Evaluation	No	Subpart DDD does not require a CMS quality control program.
63.8(f)(1)–(f)(5)	Alternative Monitoring Method	Yes.	Subpart DDD does not require CMS performance evaluations.
63.8(f)(6)	Alternative to RATA Test	No	Subpart DDD does not require CEMS.
63.8(g)(1)	Data Reduction	Yes.	

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General provisions citation	Requirement	Applies to subpart DDD?	Explanation
63.8(g)(2)		No	Subpart DDD does not require COMS or CEMS.
63.8(g)(3)–(g)(5)		Yes.	
63.9(a)	Notification Requirements Applicability.	Yes.	
63.9(b)	Initial Notifications	Yes.	
63.9(c)	Request for Compliance Extension.	Yes.	
63.9(d)	New Source Notification for Special Compliance Requirements.	Yes.	
63.9(e)	Notification of Performance Test	Yes.	
63.9(f)	Notification of VE/Opacity Test	No	Subpart DDD does not include VE/opacity standards.
63.9(g)	Additional CMS Notifications	No	Subpart DDD does not require CMS performance evaluation, COMS, or CEMS.
63.9(h)(1)–(h)(3)	Notification of Compliance Status	Yes.	
63.9(h)(4)		No	[Reserved].
63.9(h)(5)–(h)(6)		Yes.	
63.9(i)	Adjustment of Deadlines	Yes.	
63.9(j)	Change in Previous Information	Yes.	
63.10(a)	Recordkeeping/Reporting-Applicability.	Yes.	
63.10(b)	General Recordkeeping Requirements.	Yes	§ 63.1192 includes additional requirements.
63.10(c)(1)	Additional CMS Recordkeeping	Yes.	
63.10(c)(2)–(c)(4)		No	[Reserved].
63.10(c)(5)		Yes.	
63.10(c)(6)		No	Subpart DDD does not require CMS performance specifications.
63.10(c)(7)–(c)(8)		Yes.	
63.10(c)(9)		No	[Reserved].
63.10(c)(10)–(c)(13)		Yes.	
63.10(c)(14)		No	Subpart DDD does not require a CMS quality control program.
63.10(c)(15)		Yes.	
63.10(d)(1)	General Reporting Requirements	Yes	Additional requirements in § 63.1193.
63.10(d)(2)	Performance Test Results	Yes.	
63.10(d)(3)	Opacity or VE Observations	No	Subpart DDD does not include VE/opacity standards.
63.10(d)(4)–(d)(5)	Progress Reports/ Startup, Shutdown, and Malfunction Reports.	Yes.	
63.10(e)(1)–(e)(2)	Additional CMS Reports	No	Subpart DDD does not require CEMS or CMS performance evaluations.
63.10(e)(3)	Excess Emissions/CMS Performance Reports.	Yes.	
63.10(e)(4)	COMS Data Reports	No	Subpart DDD does not require COMS.
63.10(f)	Recordkeeping/Reporting Waiver	Yes.	
63.11(a)	Control Device Requirements Applicability.	Yes.	
63.11(b)	Flares	No	Flares not applicable.
63.12	State Authority and Delegations	Yes.	
63.13	Addresses	Yes.	
63.14	Incorporation by Reference	Yes.	
63.15	Information Availability/Confidentiality.	Yes.	

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APPENDIX A TO SUBPART DDD OF PART 63—FREE FORMALDEHYDE ANALYSIS OF INSULATION RESINS BY THE HYDROXYLAMINE HYDROCHLORIDE METHOD

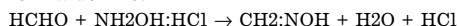
- 4.2 Hydroxylamine hydrochloride solution, 100 grams per liter, pH adjusted to 4.00.
- 4.3 Hydrochloric acid solution, 1.0 N and 0.1 N.
- 4.4 Sodium hydroxide solution, 0.1 N.
- 4.5 50/50 v/v mixture of distilled water and methyl alcohol.

1. Scope

The method in this appendix was specifically developed for water-soluble phenolic resins that have a relatively high free-formaldehyde (FF) content such as insulation resins. It may also be suitable for other phenolic resins, especially those with a high FF content.

2. Principle

2.1 a. The basis for this method is the titration of the hydrochloric acid that is liberated when hydroxylamine hydrochloride reacts with formaldehyde to form formaldoxime:



b. Free formaldehyde in phenolic resins is present as monomeric formaldehyde, hemiformals, polyoxymethylene hemiformals, and polyoxymethylene glycols. Monomeric formaldehyde and hemiformals react rapidly with hydroxylamine hydrochloride, but the polymeric forms of formaldehyde must hydrolyze to the monomeric state before they can react. The greater the concentration of free formaldehyde in a resin, the more of that formaldehyde will be in the polymeric form. The hydrolysis of these polymers is catalyzed by hydrogen ions.

2.2 The resin sample being analyzed must contain enough free formaldehyde so that the initial reaction with hydroxylamine hydrochloride will produce sufficient hydrogen ions to catalyze the depolymerization of the polymeric formaldehyde within the time limits of the test method. The sample should contain approximately 0.3 grams (g) free formaldehyde to ensure complete reaction within 5 minutes.

3. Apparatus

- 3.1 Balance, readable to 0.01 g or better.
- 3.2 pH meter, standardized to pH 4.0 with pH 4.0 buffer and pH 7 with pH 7.0 buffer.
- 3.3 50-mL burette for 1.0 N sodium hydroxide.
- 3.4 Magnetic stirrer and stir bars.
- 3.5 250-mL beaker.
- 3.6 50-mL graduated cylinder.
- 3.7 100-mL graduated cylinder.
- 3.8 Timer.

4. Reagents

4.1 Standardized 1.0 N sodium hydroxide solution.

5. Procedure

- 5.1 Determine the sample size as follows:
 - a. If the expected FF is greater than 2 percent, go to Part A in 5.1.c to determine sample size.
 - b. If the expected FF is less than 2 percent, go to Part B in 5.1.d to determine sample size.
 - c. Part A: Expected FF \geq 2 percent.
Grams resin = 60/expected percent FF

I. The following table shows example levels:

Expected percent free formaldehyde	Sample size, grams
2	30.0
5	12.0
8	7.5
10	6.0
12	5.0
15	4.0

ii. It is very important to the accuracy of the results that the sample size be chosen correctly. If the milliliters of titrant are less than 15 mL or greater than 30 mL, reestimate the needed sample size and repeat the tests.

- d. Part B: Expected FF < 2 percent
Grams resin = 30/expected percent FF

I. The following table shows example levels:

Expected percent free formaldehyde	Sample size, grams
2	15
1	30
0.5	60

ii. If the milliliters of titrant are less than 5 mL or greater than 30 mL, reestimate the needed sample size and repeat the tests.

- 5.2 Weigh the resin sample to the nearest 0.01 grams into a 250-mL beaker. Record sample weight.
- 5.3 Add 100 mL of the methanol/water mixture and stir on a magnetic stirrer. Confirm that the resin has dissolved.
- 5.4 Adjust the resin/solvent solution to pH 4.0, using the prestandardized pH meter, 1.0 N hydrochloric acid, 0.1 N hydrochloric acid, and 0.1 N sodium hydroxide.
- 5.5 Add 50 mL of the hydroxylamine hydrochloride solution, measured with a graduated cylinder. Start the timer.

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5.6 Stir for 5 minutes. Titrate to pH 4.0 with standardized 1.0 N sodium hydroxide. Record the milliliters of titrant and the normality.

6. Calculations

$$\% \text{ FF} = \frac{\text{mL sodium hydroxide} \times \text{normality} \times 3.003}{\text{grams of sample}}$$

7. Method Precision and Accuracy

Test values should conform to the following statistical precision:

Variance = 0.005

Standard deviation = 0.07

95% Confidence Interval, for a single determination = 0.2

8. Author

This method was prepared by K.K. Tutin and M.L. Foster, Tacoma R&D Laboratory,

Georgia-Pacific Resins, Inc. (Principle written by R. R. Conner.)

9. References

9.1 GPAM 2221.2.

9.2 PR&C TM 2.035.

9.3 Project Report, Comparison of Free Formaldehyde Procedures, January 1990, K. Tutin.