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Section 66265.1084@ Waste Determination Procedures

CA

66265.1084 Waste Determination Procedures

(a)

Waste determination procedure to determine average volatile organic (VO) concentration of a hazardous waste at the point of waste origination. (1) An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under the provisions of section 66265.1083(c)(1) from using air emission controls in accordance with standards specified in sections 66265.1085 through 66265.1088, as applicable to the waste management unit.(A) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the hazardous waste stream is placed in a waste management unit exempted under the provisions of section 66265.1083(c)(1) from using air emission controls, and thereafter an initial determination of the average VO concentration of the waste stream shall be made for each averaging period that a hazardous waste is managed in the unit; and (B) Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level that is equal to or greater than the VO concentration limit specified in section 66265.1083(c)(1). (2) For a waste determination that is required by subsection (a)(1) of this section, the average VO concentration of a hazardous waste at the point of waste origination shall be determined using either direct measurement as specified in subsection (a)(3) of this section or by knowledge as specified in subsection (a)(4) of this section. (3) Direct measurement to determine average VO concentration of a hazardous waste at the point of waste origination. (A) Identification. The owner or operator shall identify and record the point of waste origination for the hazardous waste. (B) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste origination in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method. 1. The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year. 2. A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste etermination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the source or process generating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature. 3. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference--refer to section 66260.11(a) of this division), or in Method 25D in 40 CFR part 60, appendix A. 4. Sufficient information, as specified in the "site sampling plan" required under paragraph (a)(3)(B)3. of this section, shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the source or process generating the hazardous waste represented by the samples. (C) Analysis. Each collected sample shall be prepared and analyzed in accordance with one or more of the methods listed in subsections (a)(3)(C)1. through (a)(3)(C)9. of this section, including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. If Method 25D in 40 CFR part 60, appendix A is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10-6 atmospheres/gram-mole/m3] at 25 degrees Celsius. Each of the analytical methods listed in subsections (a)(3)(C)2. through (a)(3)(C)7. of this section has an associated list of approved chemical compounds, for which EPA considers the method appropriate for measurement. If an owner or operator uses EPA Method 624, 625, 1624, or 1625 in 40 CFR part 136, appendix

A to analyze one or more compounds that are not on that method's published list, the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5 must be followed. If an owner or operator uses EPA Method 8260 or 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference--refer to section 66260.11(a) of this chapter) to analyze one or more compounds that are not on that method's published list, the procedures in subsection (a)(3)(C)8. of this section must be followed. At the owner or operator's discretion, the owner or operator may adjust test data measured by a method other than Method 25D to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant value greater than or equal to 0.1 Y/X at 25 degrees Celsius contained the waste. Constituent-specific adjustment factors (fm25D) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. 1. Method 25D in 40 CFR part 60, appendix A. 2. Method 624 in 40 CFR part 136, appendix A. 3. Method 625 in 40 CFR part 136, appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method. 4. Method 1624 in 40 CFR part 136, appendix A. 5. Method 1625 in 40 CFR part 136, appendix A. 6. Method 8260 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division).

Maintain a formal quality assurance program consistent with the requirements of Method 8260. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 7. Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8270. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 8. Any other EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods", 40 CFR part 63, appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in subsection (a)(3)(C)9. of this section. 9. Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required. (D) Calculations. 1. The average VO concentration (c) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with subsections (a)(3)(B) and (C) of this section and the following equation: Click here to view image where: c¯ = Average VO concentration of the hazardous waste at the point of waste origination on a mass-weighted basis, ppmw. i = Individual waste determination "i" of the hazardous waste. n = Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year). Qi = Mass quantity of hazardous waste stream represented by Ci, kg/hr. QT = Total mass quantity of hazardous waste during the averaging period, kg/hr. Ci = Measured VO concentration of waste determination "i" as determined in accordance with the requirements of subsection (a)(3)(C) of this section (i.e., the average of the four or more samples specified in subsection (a)(3)(B)2. of this section), ppmw. 2. For the purpose of determining Ci, for individual waste samples analyzed in accordance with subsection (a)(3)(C) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration: a. If Method 25D in 40 CFR part 60, Appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, appendix A. b. If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10-6 atmospheres/gram-mole/m3] at 25 degrees Celsius. (E) Provided that the test method is appropriate for the waste as required under subsection (a)(3)(C) of this section, the EPA will determine compliance based on the test method used by the owner or operator as recorded pursuant to section 66265.1090(f)(1). (4) Use of owner or operator knowledge to determine average VO concentration of a hazardous waste at the point of waste origination.(A) Documentation shall be prepared that presents the information used as the basis for the owner's or operator's knowledge of the hazardous waste stream's average VO concentration. Examples of information that may be used as the basis for knowledge include: Material balances for the source or process generating the hazardous waste stream; constituent-specific chemical test data for the hazardous waste stream from previous testing that are still applicable to the current waste stream; previous test data for other locations managing the same type of waste stream; or other knowledge based on information included in manifests, shipping papers, or waste certification notices. (B) If test data are used as the basis for knowledge, then the owner or operator shall document the test method, sampling protocol, and the means by which sampling variability and analytical variability are accounted for in the determination of the average VO concentration. For example, an owner or operator may use organic concentration test data for the hazardous waste stream that are validated in accordance with Method 301 in 40 CFR part 63, appendix A as the basis for knowledge of the waste. (C) An owner or operator using chemical constituent-specific concentration test data as the basis for knowledge of the hazardous waste may adjust the test data to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration for each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D). (D) In the event that the Department and the owner or operator disagree on a determination of the average VO concentration for a hazardous waste stream using knowledge, then the results from a determination of average VO concentration using direct measurement as specified in subsection (a)(3) of this section shall be used to establish compliance with the applicable requirements of this article. The Department may perform or request that the owner or operator perform this determination using direct measurement. The owner or operator may choose one or more appropriate methods to analyze each collected sample in accordance with the requirements of subsection (a)(3)(C) of this section.

(1)

An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under the provisions of section 66265.1083(c)(1) from using air emission controls in accordance with standards specified in sections 66265.1085 through 66265.1088, as applicable to the waste management unit.(A) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the hazardous waste stream is placed in a waste management unit exempted under the provisions of section 66265.1083(c)(1) from using air emission controls, and thereafter an initial determination of the average VO concentration of the waste stream shall be made for each averaging period that a hazardous waste is managed in the unit; and (B) Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level that is equal to or greater than the VO concentration limit specified in section 66265.1083(c)(1).

(A)

An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the hazardous waste stream is placed in a waste management unit exempted under the provisions of section 66265.1083(c)(1) from using air emission controls, and thereafter an initial determination of the average VO concentration of the waste stream shall be made for each averaging period that a hazardous waste is managed in the unit; and

(B)

Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level that is equal to or greater than the VO concentration limit specified in section 66265.1083(c)(1).

(2)

For a waste determination that is required by subsection (a)(1) of this section, the average VO concentration of a hazardous waste at the point of waste origination shall be determined using either direct measurement as specified in subsection (a)(3) of this section or by knowledge as specified in subsection (a)(4) of this section.

(3)

Direct measurement to determine average VO concentration of a hazardous waste at the point of waste origination. (A) Identification. The owner or operator shall identify and record the point of waste origination for the hazardous waste. (B) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste origination in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method. 1. The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year. 2. A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste etermination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the source or process generating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature. 3. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference--refer to section 66260.11(a) of this division), or in Method 25D in 40 CFR part 60, appendix A. 4. Sufficient information, as specified in the "site sampling plan" required under paragraph (a)(3)(B)3. of this section, shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the source or process generating the hazardous waste represented by the samples. (C) Analysis. Each collected sample shall be prepared and analyzed in accordance with one or more of the methods listed in subsections (a)(3)(C)1. through (a)(3)(C)9. of this section, including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. If Method 25D in 40 CFR part 60, appendix A is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10-6 atmospheres/gram-mole/m3] at 25 degrees Celsius. Each of the analytical methods listed in subsections (a)(3)(C)2. through (a)(3)(C)7. of this section has an associated list of approved chemical compounds, for which EPA considers the method appropriate for measurement. If an owner or operator uses EPA Method 624, 625, 1624, or 1625 in 40 CFR part 136, appendix A to analyze one or more compounds that are not on that method's published list, the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5 must be followed. If an owner or operator uses EPA Method 8260 or 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference--refer to section 66260.11(a) of this chapter) to analyze one or more compounds that are not on that method's published list, the procedures in subsection (a)(3)(C)8. of this section must be followed. At the owner or operator's discretion, the owner or operator may adjust test data measured by a method other than Method 25D to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant value greater than or equal to 0.1 Y/X at 25 degrees Celsius contained the waste. Constituent-specific adjustment factors (fm25D) can be obtained by contacting the

Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. 1. Method 25D in 40 CFR part 60, appendix A. 2. Method 624 in 40 CFR part 136, appendix A. 3. Method 625 in 40 CFR part 136, appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method. 4. Method 1624 in 40 CFR part 136, appendix A. 5. Method 1625 in 40 CFR part 136, appendix A. 6. Method 8260 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8260. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 7. Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8270. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 8. Any other EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods", 40 CFR part 63, appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in subsection (a)(3)(C)9. of this section. 9. Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required. (D) Calculations. 1. The average VO concentration (c) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with subsections (a)(3)(B) and (C) of this section and the following equation: Click here to view image where: $\bar{c}$ = Average VO concentration of the hazardous waste at the point of waste origination on a mass-weighted basis, ppmw. i = Individual waste determination "i" of the hazardous waste. n = Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year). Qi = Mass quantity of hazardous waste stream represented by Ci, kg/hr. QT = Total mass quantity of hazardous waste during the averaging period, kg/hr. Ci = Measured VO concentration of waste determination "i" as determined in accordance with the requirements of subsection (a)(3)(C) of this section (i.e., the average of the four or more samples specified in subsection (a)(3)(B)2. of this section), ppmw. 2. For the purpose of determining Ci, for individual waste samples analyzed in accordance with subsection (a)(3)(C) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration: a. If Method 25D in 40 CFR part 60, Appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, appendix A. b. If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant values at least 0.1

mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10-6 atmospheres/gram-mole/m3] at 25 degrees Celsius. (E) Provided that the test method is appropriate for the waste as required under subsection (a)(3)(C) of this section, the EPA will determine compliance based on the test method used by the owner or operator as recorded pursuant to section 66265.1090(f)(1).

(A)

Identification. The owner or operator shall identify and record the point of waste origination for the hazardous waste.

(B)

Sampling. Samples of the hazardous waste stream shall be collected at the point of waste origination in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method. 1. The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year. 2. A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste etermination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the source or process generating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature. 3. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference--refer to section 66260.11(a) of this division), or in Method 25D in 40 CFR part 60, appendix A. 4. Sufficient information, as specified in the "site sampling plan" required under paragraph (a)(3)(B)3. of this section, shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the source or process generating the hazardous waste represented by the samples.

1.

The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year.

2.

A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste etermination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the source or process generating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature.

3.

All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference--refer to section 66260.11(a) of this division), or in Method 25D in 40 CFR part 60, appendix A.

4.

Sufficient information, as specified in the "site sampling plan" required under paragraph (a)(3)(B)3. of this section, shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the source or process generating the hazardous waste represented by the samples.

(C)

Analysis. Each collected sample shall be prepared and analyzed in accordance with one or more of the methods listed in subsections (a)(3)(C)1. through (a)(3)(C)9. of this section, including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. If Method 25D in 40 CFR part 60, appendix A is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase

(0.1 Y/X) [which can also be expressed as 1.8 x 10-6 atmospheres/gram-mole/m3] at 25 degrees Celsius. Each of the analytical methods listed in subsections (a)(3)(C)2. through (a)(3)(C)7. of this section has an associated list of approved chemical compounds, for which EPA considers the method appropriate for measurement. If an owner or operator uses EPA Method 624, 625, 1624, or 1625 in 40 CFR part 136, appendix A to analyze one or more compounds that are not on that method's published list, the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5 must be followed. If an owner or operator uses EPA Method 8260 or 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference--refer to section 66260.11(a) of this chapter) to analyze one or more compounds that are not on that method's published list, the procedures in subsection (a)(3)(C)8. of this section must be followed. At the owner or operator's discretion, the owner or operator may adjust test data measured by a method other than Method 25D to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant value greater than or equal to 0.1 Y/X at 25 degrees Celsius contained the waste. Constituent-specific adjustment factors (fm25D) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. 1. Method 25D in 40 CFR part 60, appendix A. 2. Method 624 in 40 CFR part 136, appendix A. 3. Method 625 in 40 CFR part 136, appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method. 4. Method 1624 in 40 CFR part 136, appendix A. 5. Method 1625 in 40 CFR part 136, appendix A. 6. Method 8260 in

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8260. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 7. Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8270. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 8. Any other EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods", 40 CFR part 63, appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in subsection (a)(3)(C)9. of this section. 9. Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

1.

Method 25D in 40 CFR part 60, appendix A.

2.

Method 624 in 40 CFR part 136, appendix A.

3.

Method 625 in 40 CFR part 136, appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method.

4.

Method 1624 in 40 CFR part 136, appendix A.

5.

Method 1625 in 40 CFR part 136, appendix A.

6.

Method 8260 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8260. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures.

  a.

  Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps.

  b.

  Measurement of the overall accuracy and precision of the specific procedures.

7.

Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8270. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures.

a.

Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps.

b.

Measurement of the overall accuracy and precision of the specific procedures.

8.

Any other EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods", 40 CFR part 63, appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in subsection (a)(3)(C)9. of this section.

9.

Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

(D)

Calculations. 1. The average VO concentration (c) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with subsections (a)(3)(B) and (C) of this section and the following equation: Click here to view image where: $\bar{c}$ = Average VO concentration of the hazardous waste at the point of waste origination on a mass-weighted basis, ppmw. i = Individual waste determination "i" of the hazardous waste. n = Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year). Qi = Mass quantity of hazardous waste stream represented by Ci, kg/hr. QT = Total mass quantity of hazardous waste during the averaging period, kg/hr. Ci = Measured VO concentration of waste determination "i" as determined in accordance with the requirements of subsection (a)(3)(C) of this section (i.e., the average of the four or more samples specified in subsection (a)(3)(B)2. of this section), ppmw. 2. For the purpose of determining Ci, for individual waste samples analyzed in accordance with subsection (a)(3)(C) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration: a. If Method 25D in 40 CFR part 60, Appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, appendix A. b. If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10-6 atmospheres/gram-mole/m3] at 25 degrees Celsius.

1.

The average VO concentration (c) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with subsections (a)(3)(B) and (C) of this section and the following equation: Click here to view image where: $\bar{c}$ = Average VO concentration of the hazardous waste at the point of waste origination on a mass-weighted basis,

ppmw. i = Individual waste determination "i" of the hazardous waste. n = Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year). Qi = Mass quantity of hazardous waste stream represented by Ci, kg/hr. QT = Total mass quantity of hazardous waste during the averaging period, kg/hr. Ci = Measured VO concentration of waste determination "i" as determined in accordance with the requirements of subsection (a)(3)(C) of this section (i.e., the average of the four or more samples specified in subsection (a)(3)(B)2. of this section), ppmw.

2.

For the purpose of determining Ci, for individual waste samples analyzed in accordance with subsection (a)(3)(C) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration: a. If Method 25D in 40 CFR part 60, Appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, appendix A. b. If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10-6 atmospheres/gram-mole/m3] at 25 degrees Celsius.

a.

If Method 25D in 40 CFR part 60, Appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, appendix A.

b.

If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10-6 atmospheres/gram-mole/m3] at 25 degrees Celsius.

(E)

Provided that the test method is appropriate for the waste as required under subsection (a)(3)(C) of this section, the EPA will determine compliance based on the test method used by the owner or operator as recorded pursuant to section 66265.1090(f)(1).

(4)

Use of owner or operator knowledge to determine average VO concentration of a hazardous waste at the point of waste origination.(A) Documentation shall be prepared that presents the information used as the basis for the owner's or operator's knowledge of the hazardous waste stream's average VO concentration. Examples of information that may be used as the basis for knowledge include: Material balances for the source or process generating the hazardous waste stream; constituent-specific chemical test data for the hazardous waste stream from previous testing that are still applicable to the current waste stream; previous test data for other locations managing the same type of waste stream; or other knowledge based on information included in manifests, shipping papers, or waste certification notices. (B) If test data are used as the basis for knowledge, then the owner or operator shall document the test method, sampling protocol, and the means by which sampling variability and analytical variability are accounted for in the determination of the average VO concentration. For example, an owner or operator may use organic concentration test data for the hazardous waste stream that are validated in accordance with Method 301 in 40 CFR part 63, appendix A as the basis for knowledge of the waste. (C) An owner or operator using chemical constituent-specific concentration test data as the basis for knowledge of the hazardous waste may adjust the test data to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration for each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D).

(D) In the event that the Department and the owner or operator disagree on a determination of the average VO concentration for a hazardous waste stream using knowledge, then the results from a determination of average VO concentration using direct measurement as specified in subsection (a)(3) of this section shall be used to establish compliance with the applicable requirements of this article. The Department may perform or request that the owner or operator perform this determination using direct measurement. The owner or operator may choose one or more appropriate methods to analyze each collected sample in accordance with the requirements of subsection (a)(3)(C) of this section.

(A)

Documentation shall be prepared that presents the information used as the basis for the owner's or operator's knowledge of the hazardous waste stream's average VO concentration. Examples of information that may be used as the basis for knowledge include: Material balances for the source or process generating the hazardous waste stream; constituent-specific chemical test data for the hazardous waste stream from previous testing that are still applicable to the current waste stream; previous test data for other locations managing the same type of waste stream; or other knowledge based on information included in manifests, shipping papers, or waste certification notices.

(B)

If test data are used as the basis for knowledge, then the owner or operator shall document the test method, sampling protocol, and the means by which sampling variability and analytical variability are accounted for in the determination of the average VO concentration. For example, an owner or operator may use organic concentration test data for the hazardous waste stream that are validated in accordance with Method 301 in 40 CFR part 63, appendix A as the basis for knowledge of the waste.

(C)

An owner or operator using chemical constituent-specific concentration test data as the basis for knowledge of the hazardous waste may adjust the test data to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration for each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D).

(D)

In the event that the Department and the owner or operator disagree on a determination of the average VO concentration for a hazardous waste stream using knowledge, then the results from a determination of average VO concentration using direct measurement as specified in subsection (a)(3) of this section shall be used to establish compliance with the applicable requirements of this article. The Department may perform or request that the owner or operator perform this determination using direct measurement. The owner or operator may choose one or more appropriate methods to analyze each collected sample in accordance with the requirements of subsection (a)(3)(C) of this section.

(b)

Waste determination procedures for treated hazardous waste.(1) An owner or operator shall perform the applicable waste determination for each treated hazardous waste placed in a waste management unit exempted under the provisions of sections 66265.1083(c)(2)(A) through (c)(2)(F) from using air emission controls in accordance with standards specified in sections 66265.1085 through 66265.1088, as applicable to the waste management unit. (A) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the treated waste stream is placed in a waste management unit exempted under the provisions of sections 66265.1083(c)(2), 66265.1083(c)(3), or 66265.1083(c)(4) from using air emission controls, and thereafter update the information used for the waste determination at least once every 12 months following the date of the initial waste determination; and (B) Perform a new waste determination whenever changes to the process generating or treating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level such that the applicable treatment conditions specified in sections 66265.1083(c)(2), 66265.1083(c)(3), or 66265.1083(c)(4) are not achieved. (2) The owner or operator shall designate and record the specific provision in section 66265.1083(c)(2) under which the waste determination is being performed. The waste determination for the treated hazardous waste shall be performed using the applicable procedures specified in subsections (b)(3) through (b)(9) of this section. (3) Procedure to determine the average VO concentration of a hazardous waste at the point of waste treatment. (A) Identification. The owner or operator shall identify and record the point of waste treatment for the hazardous waste. (B) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste treatment in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method. 1. The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year. 2. A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the process generating or treating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature. 3. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporated by reference--refer to section 66260.11(a)), or in Method 25D in 40 CFR part 60, appendix A. 4. Sufficient information, as specified in the "site sampling plan" required under paragraph (C) of (b)(3)(B) of this section, section 66265.1084(b)(3)(B), shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the process treating the hazardous waste represented by the samples. (C) Analysis. Each collected sample shall be prepared and analyzed in accordance with one or more of the methods listed in subsections (b)(3)(C)1. through (b)(3)(C)9. of this section, including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. When the owner or operator is making a waste determination for a treated hazardous waste that is to be compared to an average VO concentration at the point of waste origination or the point of waste entry to the treatment system, to determine if the conditions of section 66264.1082(c)(2)(A) through (c)(2)(F) or section 66265.1083(c)(2)(A) through (c)(2)(F) are met, then the waste samples shall be prepared and analyzed using the same method or methods as were used in making the initial waste determinations at the point of waste origination or at the point of entry to the treatment system. If Method 25D in 40 CFR part 60, appendix A is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10-6 atmospheres/gram-mole/m3] at 25 degrees Celsius. Each of the analytical methods listed in subsections (b)(3)(C)2. through (b)(3)(C)7. of this section has an associated list of approved chemical compounds, for which EPA considers the method appropriate for measurement. If an owner or operator uses EPA Method 624, 625, 1624, or 1625 in 40 CFR part 136, appendix A to analyze one or more compounds that are not on that method's published list, the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5 must be followed. If an owner or operator uses EPA Method 8260 or 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference--refer to section 66260.11(a) of this chapter) to analyze one or more compounds that are not on that method's published list, the procedures in subsection (b)(3)(C)8. of this section must be followed. At the owner or operator's discretion, the owner or operator may adjust test data measured by a method other than Method 25D to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant equal to or greater than 0.1 Y/X at 25 degrees Celsius contained the waste. Constituent-specific adjustment factors (fm25D) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. 1. Method 25D in 40 CFR part 60, appendix A. 2. Method 624 in 40 CFR part 136, appendix A. 3. Method 625 in 40 CFR part 136, appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method. 4. Method 1624 in 40 CFR part 136, appendix A. 5. Method 1625 in 40 CFR part 136, appendix A. 6. Method 8260 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8260. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 7. Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8270. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 8. Any other EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods", 40 CFR part 63, appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in subsection (b)(3)(C)9. of this section. 9. Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required. (D) Calculations. The average VO concentration (c¯) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with subsection (b)(3)(B) and (C) of this section and the following equation: Click here to view image Where: c¯ = Average VO concentration of the hazardous waste at the point of waste treatment on a mass-weighted basis, ppmw. i = Individual waste determination "i" of the hazardous waste. n = Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year) Qi = Mass quantity of hazardous waste stream represented by Ci, kg/hr. QT = Total mass quantity of hazardous waste during the averaging period, kg/hr. Ci = Measured VO concentration of waste determination "i" as determined in accordance with the requirements of subsection (b)(3)(C) of this section (i.e., the average of the four or more samples specified in subsection (b)(3)(B)2. of this section), ppmw. (E) Provided that the test method is appropriate for the waste as required under subsection (b)(3)(C) of this section, the Department will determine compliance based on the test method used by the owner or operator as recorded pursuant to section 66265.1090(f)(1). (4) Procedure to determine the exit concentration limit (Ct) for a treated hazardous waste. (A) The point of waste origination for each hazardous waste treated by the process at the same time shall be identified. (B) If a single hazardous waste stream is identified in subsection (b)(4)(A) of this section, then the exit concentration limit (Ct) shall be 500 ppmw. (C) If more than one hazardous waste stream is identified in subsection (b)(4)(A) of this section, then the average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of subsection (a) of this section. The exit concentration limit (Ct) shall be calculated by using the results determined for each individual hazardous waste stream and the following equation: Click here to view image Where: Ct = Exit concentration limit for treated hazardous waste, ppmw. x = Individual hazardous waste stream "x" that has an average VO concentration less than 500 ppmw at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a). y = Individual hazardous waste stream "y" that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a). m = Total number of "x" hazardous waste streams treated by process. n = Total number of "y" hazardous waste streams treated by process. Qx = Annual mass quantity of hazardous waste stream "x," kg/yr. Qy= Annual mass quantity of hazardous waste stream "y," kg/yr. c¯x = Average VO concentration of hazardous waste stream "x" at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a), ppmw. (5) Procedure to determine the organic reduction efficiency (R) for a treated hazardous waste. (A) The organic reduction efficiency (R) for a treatment process shall be determined based on results for a minimum of three consecutive runs. (B) All hazardous waste streams entering the treatment process and all hazardous waste streams exiting the treatment process shall be identified. The owner or operator shall prepare a sampling plan for measuring these streams that accurately reflects the retention time of the hazardous waste in the process. (C) For each run, information shall be determined for each hazardous waste stream identified in subsection (b)(5)(B) of this section using the following procedures: 1. The mass quantity of each hazardous waste stream entering the process (Qb) and the mass quantity of each hazardous waste stream exiting the process (Qa) shall be determined. 2. The average VO concentration at the point of waste origination of each hazardous waste stream entering the process (c¯b) during the run shall be determined in accordance with the requirements of subsection (a)(3) of this section. The average VO concentration at the point of waste treatment of each waste stream exiting the process (c¯a) during the run shall be determined in accordance with the requirements of subsection (b)(3) of this section. (D) The waste volatile organic mass flow entering the process (Eb) and the waste volatile organic mass flow exiting the process (Ea) shall be calculated by using the results determined in accordance with subsection (b)(5)(C) of this section and the following equations: Click here to view image Where: Ea = Waste volatile organic mass flow exiting process, kg/hr. Eb = Waste volatile organic mass flow entering process, kg/hr. m = Total number of runs (at least 3) j = Individual run "j" Qb = Mass quantity of hazardous waste entering process during run "j," kg/hr. Qa = Average mass quantity of hazardous waste exiting process during run "j," kg/hr. c¯a = Average VO concentration of hazardous waste exiting process during run "j" as determined in accordance with the requirements of section 66265.1084(b)(3), ppmw. c¯b = Average VO concentration of hazardous waste entering process during run "j" as determined in accordance with the requirements of section 66265.1084(a)(3), ppmw. (E) The organic reduction efficiency of the process shall be calculated by using the results determined in accordance with subsection (b)(5)(D) of this section and the following equation: Click here to view image Where: R = Organic reduction efficiency, percent. Eb = Waste volatile organic mass flow entering process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr. Ea = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr. (6) Procedure to determine the organic biodegradation efficiency (Rbio) for a treated hazardous waste.(A) The fraction of organics biodegraded (Fbio) shall be determined using the procedure specified in 40 CFR part 63, appendix C. (B) The Rbio shall be calculated by using the following equation: Click here to view image Where: Rbio = Organic biodegradation efficiency, percent. Fbio = Fraction of organic biodegraded as determined in accordance with the requirements of subsection (b)(6)(A) of this section. (7) Procedure to determine the required organic mass removal rate (RMR) for a treated hazardous waste. (A) All of the hazardous waste streams entering the treatment process shall be identified. (B) The average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of subsection (a) of this section. (C) For each individual hazardous waste stream that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination, the average volumetric flow rate and the density of the hazardous waste stream at the point of waste origination shall be determined. (D) The RMR shall be calculated by using the average VO concentration, average volumetric flow rate, and density determined for each individual hazardous waste stream, and the following equation: Click here to view image Where: RMR = Required organic mass removal rate, kg/hr. y = Individual hazardous waste stream "y" that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a). n = Total number of "y" hazardous waste streams treated by process. Vy = Average volumetric flow rate of hazardous waste stream "y" at the point of waste origination, m3/hr. ky = Density of hazardous waste stream "y," kg/m3 c¯y = Average VO concentration of hazardous waste stream "y" at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a), ppmw. (8) Procedure to determine the actual organic mass removal rate (MR) for a treated hazardous waste. (A) The MR shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour. (B) The waste volatile organic mass flow entering the process (Eb) and the waste volatile organic mass flow exiting the process (Ea) shall be determined in accordance with the requirements of subsection (b)(5)(D) of this section. (C) The MR shall be calculated by using the mass flow rate determined in accordance with the requirements of subsection (b)(8)(B) of this section and the following equation: Where: MR = Eb-Ea MR = Actual organic mass removal rate, kg/hr. Eb = Waste volatile organic mass flow entering process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr. Ea = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr. (9) Procedure to determine the actual organic mass biodegradation rate (MRbio) for a treated hazardous waste. (A) The MRbio shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour. (B) The waste organic mass flow entering the process (Eb) shall be determined in accordance with the requirements of subsection (b)(5)(D) of this section. (C) The fraction of organic biodegraded (Fbio) shall be determined using the procedure specified in 40 CFR part 63, appendix C. (D) The MRbio shall be calculated by using the mass flow rates and fraction of organic biodegraded determined in accordance with the requirements of subsections (b)(9)(B) and (b)(9)(C), respectively, of this section and the following equation: Where: MRbio = Eb x Fbio MRbio = Actual organic mass biodegradation rate, kg/hr. Eb = Waste organic mass flow entering process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr. Fbio = Fraction of organic biodegraded as determined in accordance with the requirements of subsection (b)(9)(C) of this section.

(1)

An owner or operator shall perform the applicable waste determination for each treated hazardous waste placed in a waste management unit exempted under the provisions of sections 66265.1083(c)(2)(A) through (c)(2)(F) from using air emission controls in accordance with standards specified in sections 66265.1085 through 66265.1088, as applicable to the waste management unit. (A) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the treated waste stream is placed in a waste management unit exempted under the provisions of sections 66265.1083(c)(2), 66265.1083(c)(3), or 66265.1083(c)(4) from using air emission controls, and thereafter update the information used for the waste determination at least once every 12 months following the date of the initial waste determination; and (B) Perform a new waste determination whenever changes to the process generating or treating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level such that the applicable treatment conditions specified in sections 66265.1083(c)(2), 66265.1083(c)(3), or 66265.1083(c)(4) are not achieved.

(A)

An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the treated waste stream is placed in a waste management unit exempted under the provisions of sections 66265.1083(c)(2), 66265.1083(c)(3), or 66265.1083(c)(4) from using air emission controls, and thereafter update the information used for the waste determination at least once every 12 months following the date of the initial waste determination; and

(B)

Perform a new waste determination whenever changes to the process generating or treating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level such that the applicable treatment conditions specified in sections 66265.1083(c)(2), 66265.1083(c)(3), or 66265.1083(c)(4) are not achieved.

(2)

The owner or operator shall designate and record the specific provision in section 66265.1083(c)(2) under which the waste determination is being performed. The waste determination for the treated hazardous waste shall be performed using the applicable procedures specified in subsections (b)(3) through (b)(9) of this section.

(3)

Procedure to determine the average VO concentration of a hazardous waste at the point of waste treatment. (A) Identification. The owner or operator shall identify and record the point of waste treatment for the hazardous waste. (B) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste treatment in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method. 1. The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year. 2. A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the process generating or treating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature. 3. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporated by reference--refer to section 66260.11(a)), or in Method 25D in 40 CFR part 60, appendix A. 4. Sufficient information, as specified in the "site sampling plan" required under paragraph (C) of (b)(3)(B) of this section, section 66265.1084(b)(3)(B), shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the process treating the hazardous waste represented by the samples. (C) Analysis. Each collected sample shall be prepared and analyzed in accordance with one or more of the methods listed in subsections (b)(3)(C)1. through (b)(3)(C)9. of this section, including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. When the owner or operator is making a waste determination for a treated hazardous waste that is to be compared to an average VO concentration at the point of waste origination or the point of waste entry to the treatment system, to determine if the conditions of section 66264.1082(c)(2)(A) through (c)(2)(F) or section 66265.1083(c)(2)(A) through (c)(2)(F) are met, then the waste samples shall be prepared and analyzed using the same method or methods as were used in making the initial waste determinations at the point of waste origination or at the point of entry to the treatment system. If Method 25D in 40 CFR part 60, appendix A is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10-6 atmospheres/gram-mole/m3] at 25 degrees Celsius. Each of the analytical methods listed in subsections (b)(3)(C)2. through (b)(3)(C)7. of this section has an associated list of approved chemical compounds, for which EPA considers the method appropriate for measurement. If an owner or operator uses EPA Method 624, 625, 1624, or 1625 in 40 CFR part 136, appendix A to analyze one or more compounds that are not on that method's published list, the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5 must be followed. If an owner or operator uses EPA Method 8260 or 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference--refer to section 66260.11(a) of this chapter) to analyze one or more compounds that are not on that method's published list, the procedures in subsection (b)(3)(C)8. of this section must be followed. At the owner or operator's discretion, the owner or operator may adjust test data measured by a method other than Method 25D to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant equal to or greater than 0.1 Y/X at 25 degrees Celsius contained the waste. Constituent-specific adjustment factors (fm25D) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. 1. Method 25D in 40 CFR part 60, appendix A. 2. Method 624 in 40 CFR part 136, appendix A. 3. Method 625 in 40 CFR part 136, appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method. 4. Method 1624 in 40 CFR part 136, appendix A. 5. Method 1625 in 40 CFR part 136, appendix A. 6. Method 8260 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8260. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 7. Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8270. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 8. Any other EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods", 40 CFR part 63, appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in subsection (b)(3)(C)9. of this section. 9. Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required. (D) Calculations. The average VO concentration ($\bar{c}$) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with subsection (b)(3)(B) and (C) of this section and the following equation: Click here to view image Where: c¯ = Average VO concentration of the hazardous waste at the point of waste treatment on a mass-weighted basis, ppmw. i = Individual waste determination "i" of the hazardous waste. n = Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year) Qi = Mass quantity of hazardous waste stream represented by Ci, kg/hr. QT = Total mass quantity of hazardous waste during the averaging period, kg/hr. Ci = Measured VO concentration of waste determination "i" as determined in accordance with the requirements of subsection (b)(3)(C) of this section (i.e., the average of the four or more samples specified in subsection (b)(3)(B)2. of this section), ppmw. (E) Provided that the test method is appropriate for the waste as required under subsection (b)(3)(C) of this section, the Department will determine compliance based on the test method used by the owner or operator as recorded pursuant to section 66265.1090(f)(1).

(A)

Identification. The owner or operator shall identify and record the point of waste treatment for the hazardous waste.

(B)

Sampling. Samples of the hazardous waste stream shall be collected at the point of waste treatment in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method. 1. The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year. 2. A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the process generating or treating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature. 3. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporated by reference--refer to section 66260.11(a)), or in Method 25D in 40 CFR part 60, appendix A. 4. Sufficient information, as specified in the "site sampling plan" required under paragraph (C) of (b)(3)(B) of this section, section 66265.1084(b)(3)(B), shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the process treating the hazardous waste represented by the samples.

1.

The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year.

2.

A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the process generating or treating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature.

3.

All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporated by reference--refer to section 66260.11(a)), or in Method 25D in 40 CFR part 60, appendix A.

4.

Sufficient information, as specified in the "site sampling plan" required under paragraph (C) of (b)(3)(B) of this section, section 66265.1084(b)(3)(B), shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the process treating the hazardous waste represented by the samples.

(C)

Analysis. Each collected sample shall be prepared and analyzed in accordance with one or more of the methods listed in subsections (b)(3)(C)1. through (b)(3)(C)9. of this section, including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. When the owner or operator is making a waste determination for a treated hazardous waste that is to be compared to an average VO concentration at the point of waste origination or the point of waste entry to the treatment system, to determine if the conditions of section 66264.1082(c)(2)(A) through (c)(2)(F) or section 66265.1083(c)(2)(A) through (c)(2)(F) are met, then the waste samples shall be prepared and analyzed using the same method or methods as were used in making the initial waste determinations at the point of waste origination or at the point of entry to the treatment system. If Method 25D in 40 CFR part 60, appendix A is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10-6 atmospheres/gram-mole/m3] at 25 degrees Celsius. Each of the analytical methods listed in subsections (b)(3)(C)2. through (b)(3)(C)7. of this section has an associated list of approved chemical compounds, for which EPA considers the method appropriate for measurement. If an owner or operator uses EPA Method 624, 625, 1624, or 1625 in 40 CFR part 136, appendix A to analyze one or more compounds that are not on that method's published list, the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5 must be followed. If an owner or operator uses EPA Method 8260 or 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference--refer to section 66260.11(a) of this chapter) to analyze one or more compounds that are not on that method's published list, the procedures in subsection (b)(3)(C)8. of this section must be followed. At the owner or operator's discretion, the owner or operator may adjust test data measured by a method other than Method 25D to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, appendix A. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant equal to or greater than 0.1 Y/X at 25 degrees Celsius contained the waste. Constituent-specific adjustment factors (fm25D) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. 1. Method 25D in 40 CFR part 60, appendix A. 2. Method 624 in 40 CFR part 136, appendix A. 3. Method 625 in 40 CFR part 136, appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method. 4. Method 1624 in 40 CFR part 136, appendix A. 5. Method 1625 in 40 CFR part 136, appendix A. 6. Method 8260 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8260. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 7. Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8270. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures. 8. Any other EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods", 40 CFR part 63, appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in subsection (b)(3)(C)9. of this section. 9. Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

1.

Method 25D in 40 CFR part 60, appendix A.

2.

Method 624 in 40 CFR part 136, appendix A.

3.

Method 625 in 40 CFR part 136, appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method.

4.

Method 1624 in 40 CFR part 136, appendix A.

5.

Method 1625 in 40 CFR part 136, appendix A.

6.

Method 8260 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA

Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8260. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures.

a.

Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps.

b.

Measurement of the overall accuracy and precision of the specific procedures.

7.

Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (incorporated by reference--refer to section 66260.11(a) of this division). Maintain a formal quality assurance program consistent with the requirements of Method 8270. The quality assurance program shall include the following elements: a. Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps. b. Measurement of the overall accuracy and precision of the specific procedures.

a.

Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps.

b.

Measurement of the overall accuracy and precision of the specific procedures.

8.

Any other EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods", 40 CFR part 63, appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in subsection (b)(3)(C)9. of this section.

9.

Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

(D)

Calculations. The average VO concentration ($\bar{c}$) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with subsection (b)(3)(B) and (C) of this section and the following equation: Click here to view image Where: $\bar{c}$ = Average VO concentration of the hazardous waste at the point of waste treatment on a mass-weighted basis, ppmw. i = Individual waste determination "i" of the hazardous waste. n = Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year) Qi = Mass quantity of hazardous waste stream represented by Ci, kg/hr. QT = Total mass quantity of hazardous waste during the averaging period, kg/hr. Ci = Measured VO concentration of waste determination "i" as determined in accordance with the requirements of subsection (b)(3)(C) of this section (i.e., the average of the four or more samples specified in subsection (b)(3)(B)2. of this section), ppmw.

(E)

Provided that the test method is appropriate for the waste as required under subsection (b)(3)(C) of this section, the Department will determine compliance based on the test method used by the owner or operator as recorded pursuant to section 66265.1090(f)(1).

(4)

Procedure to determine the exit concentration limit (Ct) for a treated hazardous waste. (A) The point of waste origination for each hazardous waste treated by the process at the same time shall be identified. (B) If a single hazardous waste stream is identified in subsection (b)(4)(A) of this section, then the exit concentration limit (Ct) shall be 500 ppmw. (C) If more than one hazardous waste stream is identified in subsection (b)(4)(A) of this section, then the average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of subsection (a) of this section. The exit concentration limit (Ct) shall be calculated by using the results determined for each individual hazardous waste stream and the following equation: Click here to view image Where: Ct = Exit concentration limit for treated hazardous waste, ppmw. x = Individual hazardous waste stream "x" that has an average VO concentration less than 500 ppmw at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a). y = Individual hazardous waste stream "y" that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a). m = Total number of "x" hazardous waste streams treated by process. n = Total number of "y" hazardous waste streams treated by process. Qx = Annual mass quantity of hazardous waste stream "x," kg/yr. Qy= Annual mass quantity of hazardous waste stream "y," kg/yr. $\bar{c}x$ = Average VO concentration of hazardous waste stream "x" at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a), ppmw.

(A)

The point of waste origination for each hazardous waste treated by the process at the same time shall be identified.

(B)

If a single hazardous waste stream is identified in subsection (b)(4)(A) of this section, then the exit concentration limit (Ct) shall be 500 ppmw.

(C)

If more than one hazardous waste stream is identified in subsection (b)(4)(A) of this section, then the average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of subsection (a) of this section. The exit concentration limit (Ct) shall be calculated by using the results determined for each individual hazardous waste stream and the following equation: Click here to view image Where: Ct = Exit concentration limit for treated hazardous waste, ppmw. x = Individual hazardous waste stream "x" that has an average VO concentration less than 500 ppmw at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a). y = Individual hazardous waste stream "y" that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a). m = Total number of "x" hazardous waste streams treated by process. n = Total number of "y" hazardous waste streams treated by process. Qx = Annual mass quantity of hazardous waste stream "x," kg/yr. Qy= Annual mass quantity of hazardous waste stream "y," kg/yr. c¯x = Average VO concentration of hazardous waste stream "x" at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a), ppmw.

(5)

Procedure to determine the organic reduction efficiency (R) for a treated hazardous waste. (A) The organic reduction efficiency (R) for a treatment process shall be determined based on results for a minimum of three consecutive runs. (B) All hazardous waste streams entering the treatment process and all hazardous waste streams exiting the treatment process shall be identified. The owner or operator shall prepare a sampling plan for measuring these streams that accurately reflects the retention time of the hazardous waste in the process. (C) For each run, information shall be determined for each hazardous waste stream identified in subsection (b)(5)(B) of this section using the following procedures: 1. The mass quantity of each hazardous waste stream entering the process (Qb) and the mass quantity of each hazardous waste stream exiting the process (Qa) shall be determined. 2. The average VO concentration at the point of waste origination of each hazardous waste stream entering the process (c¯b) during the run shall be determined in accordance with the requirements of subsection (a)(3) of this section. The average VO concentration at the point of waste treatment of each waste stream exiting the process (c¯a) during the run shall be determined in accordance with the requirements of subsection (b)(3) of this section. (D) The waste volatile organic mass flow entering the process (Eb) and the waste volatile organic mass flow exiting the process (Ea) shall be calculated by using the results determined in accordance with subsection (b)(5)(C) of this section and the following equations: Click here to view image Where: Ea = Waste volatile organic mass flow exiting process, kg/hr. Eb = Waste volatile organic mass flow entering process, kg/hr. m = Total number of runs (at least 3) j = Individual run "j" Qb = Mass quantity of hazardous waste entering process during run "j," kg/hr. Qa = Average mass quantity of hazardous waste exiting process during run "j," kg/hr. c¯a = Average VO concentration of hazardous waste exiting process during run "j" as determined in accordance with the requirements of section 66265.1084(b)(3), ppmw. c¯b = Average VO concentration of hazardous waste entering process during run "j" as determined in accordance with the requirements of section 66265.1084(a)(3), ppmw. (E) The organic reduction efficiency of the process shall be calculated by using the results determined in accordance with subsection (b)(5)(D) of this section and the following equation: Click here to view image Where: R = Organic reduction efficiency, percent. Eb = Waste volatile organic mass flow entering process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr. Ea = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr.

(A)

The organic reduction efficiency (R) for a treatment process shall be determined based on results for a minimum of three consecutive runs.

(B)

All hazardous waste streams entering the treatment process and all hazardous waste streams exiting the treatment process shall be identified. The owner or operator shall prepare a sampling plan for measuring these streams that accurately reflects the retention time of the hazardous waste in the process.

(C)

For each run, information shall be determined for each hazardous waste stream identified in subsection (b)(5)(B) of this section using the following procedures: 1. The mass quantity of each hazardous waste stream entering the process (Qb) and the mass quantity of each hazardous waste stream exiting the process (Qa) shall be determined. 2. The average VO concentration at the point of waste origination of each hazardous waste stream entering the process (c¯b) during the run shall be determined in accordance with the requirements of subsection (a)(3) of this section. The average VO concentration at the point of waste treatment of each waste stream exiting the process (c¯a) during the run shall be determined in accordance with the requirements of subsection (b)(3) of this section.

1.

The mass quantity of each hazardous waste stream entering the process (Qb) and the mass quantity of each hazardous waste stream exiting the process (Qa) shall be determined.

2.

The average VO concentration at the point of waste origination of each hazardous waste stream entering the process (c¯b) during the run shall be determined in accordance with the requirements of subsection (a)(3) of this section. The average VO concentration at the point of waste treatment of each waste stream exiting the process (c¯a) during the run shall be determined in accordance with the requirements of subsection (b)(3) of this section.

(D)

The waste volatile organic mass flow entering the process (Eb) and the waste volatile organic mass flow exiting the process (Ea) shall be calculated by using the results determined in accordance with subsection (b)(5)(C) of this section and the following equations: Click here to view image Where: Ea = Waste volatile organic mass flow exiting process, kg/hr. Eb = Waste volatile organic mass flow entering process, kg/hr. m = Total number of runs (at least 3) j = Individual run "j" Qb = Mass quantity of hazardous waste entering process during run "j," kg/hr. Qa = Average mass quantity of hazardous waste exiting process during run "j," kg/hr. c¯a = Average VO concentration of hazardous waste exiting process during run "j" as determined in accordance with the requirements of section 66265.1084(b)(3), ppmw. c¯b = Average VO concentration of hazardous waste entering process during run "j" as determined in accordance with the requirements of section 66265.1084(a)(3), ppmw.

(E)

The organic reduction efficiency of the process shall be calculated by using the results determined in accordance with subsection (b)(5)(D) of this section and the following equation: Click here to view image Where: R = Organic reduction efficiency, percent. Eb = Waste volatile organic mass flow entering process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr. Ea = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr.

(6)

Procedure to determine the organic biodegradation efficiency (Rbio) for a treated hazardous waste.(A) The fraction of organics biodegraded (Fbio) shall be determined using the procedure specified in 40 CFR part 63, appendix C. (B) The Rbio shall be calculated by using the following equation: Click here to view image Where: Rbio = Organic biodegradation efficiency, percent. Fbio = Fraction of organic biodegraded as determined in accordance with the requirements of subsection (b)(6)(A) of this section.

(A)

The fraction of organics biodegraded (Fbio) shall be determined using the procedure specified in 40 CFR part 63, appendix C.

(B)

The Rbio shall be calculated by using the following equation: Click here to view image Where: Rbio = Organic biodegradation efficiency, percent. Fbio = Fraction of organic biodegraded as determined in accordance with the requirements of subsection (b)(6)(A) of this section.

(7)

Procedure to determine the required organic mass removal rate (RMR) for a treated hazardous waste. (A) All of the hazardous waste streams entering the treatment process shall be identified. (B) The average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of subsection (a) of this section. (C) For each individual hazardous waste stream that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination, the average volumetric flow rate and the density of the hazardous waste stream at the point of waste origination shall be determined. (D) The

RMR shall be calculated by using the average VO concentration, average volumetric flow rate, and density determined for each individual hazardous waste stream, and the following equation: Click here to view image Where: RMR = Required organic mass removal rate, kg/hr. y = Individual hazardous waste stream "y" that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a). n = Total number of "y" hazardous waste streams treated by process. Vy = Average volumetric flow rate of hazardous waste stream "y" at the point of waste origination, m3/hr. ky = Density of hazardous waste stream "y," kg/m3 c¯y = Average VO concentration of hazardous waste stream "y" at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a), ppmw.

(A)

All of the hazardous waste streams entering the treatment process shall be identified.

(B)

The average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of subsection (a) of this section.

(C)

For each individual hazardous waste stream that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination, the average volumetric flow rate and the density of the hazardous waste stream at the point of waste origination shall be determined.

(D)

The RMR shall be calculated by using the average VO concentration, average volumetric flow rate, and density determined for each individual hazardous waste stream, and the following equation: Click here to view image Where: RMR = Required organic mass removal rate, kg/hr. y = Individual hazardous waste stream "y" that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a). n = Total number of "y" hazardous waste streams treated by process. Vy = Average volumetric flow rate of hazardous waste stream "y" at the point of waste origination, m3/hr. ky = Density of hazardous waste stream "y," kg/m3 c¯y = Average VO concentration of hazardous waste stream "y" at the point of waste origination as determined in accordance with the requirements of section 66265.1084(a), ppmw.

(8)

Procedure to determine the actual organic mass removal rate (MR) for a treated hazardous waste. (A) The MR shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour. (B) The waste volatile organic mass flow entering the process (Eb) and the waste volatile organic mass flow exiting the process (Ea) shall be determined in accordance with the requirements of subsection (b)(5)(D) of this section. (C) The MR shall be calculated by using the mass flow rate determined in accordance with the requirements of subsection (b)(8)(B) of this section and the following equation: Where: MR = Eb-Ea MR = Actual organic mass removal rate, kg/hr. Eb = Waste volatile organic mass flow entering process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr. Ea = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr.

(A)

The MR shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(B)

The waste volatile organic mass flow entering the process (Eb) and the waste volatile organic mass flow exiting the process (Ea) shall be determined in accordance with the requirements of subsection (b)(5)(D) of this section.

(C)

The MR shall be calculated by using the mass flow rate determined in accordance with the requirements of subsection (b)(8)(B) of this section and the following equation: Where: MR = Eb-Ea MR = Actual organic mass removal rate, kg/hr. Eb = Waste volatile organic mass flow entering process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr. Ea = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr.

(9)

Procedure to determine the actual organic mass biodegradation rate (MRbio) for a treated hazardous waste. (A) The MRbio shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour. (B) The waste organic mass flow entering the process (Eb) shall be determined in accordance with the requirements of subsection (b)(5)(D) of this section. (C) The fraction of organic biodegraded (Fbio) shall be determined using the procedure specified in 40 CFR part 63, appendix C. (D) The MRbio shall be calculated by using the mass flow rates and fraction of organic biodegraded determined in accordance with the requirements of subsections (b)(9)(B) and (b)(9)(C), respectively, of this section and the following equation: Where: MRbio = Eb x Fbio MRbio = Actual organic mass biodegradation rate, kg/hr. Eb = Waste organic mass flow entering process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr. Fbio = Fraction of organic biodegraded as determined in accordance with the requirements of subsection (b)(9)(C) of this section.

(A)

The MRbio shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(B)

The waste organic mass flow entering the process (Eb) shall be determined in accordance with the requirements of subsection (b)(5)(D) of this section.

(C)

The fraction of organic biodegraded (Fbio) shall be determined using the procedure specified in 40 CFR part 63, appendix C.

(D)

The MRbio shall be calculated by using the mass flow rates and fraction of organic biodegraded determined in accordance with the requirements of subsections (b)(9)(B) and (b)(9)(C), respectively, of this section and the following equation: Where: MRbio = Eb x Fbio MRbio = Actual organic mass biodegradation rate, kg/hr. Eb = Waste organic mass flow entering process as determined in accordance with the requirements of subsection (b)(5)(D) of this section, kg/hr. Fbio = Fraction of organic biodegraded as determined in accordance with the requirements of subsection (b)(9)(C) of this section.

(c)

Procedure to determine the maximum organic vapor pressure of a hazardous waste in a tank. (1) An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls in accordance with the standards specified in section 66265.1085(c). (2) An owner or operator shall use either direct measurement as specified in subsection (c)(3) of this section or knowledge of the waste as specified by subsection (c)(4) of this section to determine the maximum organic vapor pressure which is representative of the hazardous waste composition stored or treated in the tank. (3) Direct measurement to determine the maximum organic vapor pressure of a hazardous waste. (A) Sampling. A sufficient number of samples shall be collected to be representative of the waste contained in the tank. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, (incorporated by reference-- refer to section 66260.11(a)) or in Method 25D in 40 CFR part 60, appendix A. (B) Analysis. Any appropriate one of the following methods may be used to analyze the samples and compute the maximum organic vapor pressure of the hazardous waste: 1. Method 25E in 40 CFR part 60 appendix A; 2. Methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, "Evaporative Loss from External Floating-Roof Tanks," (incorporated by reference--refer to section 66260.11); 3. Methods obtained from standard reference texts; 4. ASTM Method 2879-92 (incorporated by reference--refer to section 66260.11); and 5. Any other method approved by the Department. (4) Use of knowledge to determine the maximum organic vapor pressure of the hazardous waste. Documentation shall be prepared and recorded that presents the information used as the basis for the owner's or operator's knowledge that the maximum organic vapor pressure of the hazardous waste is less than the maximum vapor pressure limit listed in section

66265.1085(b)(1)(A) for the applicable tank design capacity category. An example of information that may be used is documentation that the hazardous waste is generated by a process for which at other locations it previously has been determined by direct measurement that the waste maximum organic vapor pressure is less than the maximum vapor pressure limit for the appropriate tank design capacity category.

(1)

An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls in accordance with the standards specified in section 66265.1085(c).

(2)

An owner or operator shall use either direct measurement as specified in subsection (c)(3) of this section or knowledge of the waste as specified by subsection (c)(4) of this section to determine the maximum organic vapor pressure which is representative of the hazardous waste composition stored or treated in the tank.

(3)

Direct measurement to determine the maximum organic vapor pressure of a hazardous waste. (A) Sampling. A sufficient number of samples shall be collected to be representative of the waste contained in the tank. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, (incorporated by reference-- refer to section 66260.11(a)) or in Method 25D in 40 CFR part 60, appendix A. (B) Analysis. Any appropriate one of the following methods may be used to analyze the samples and compute the maximum organic vapor pressure of the hazardous waste: 1. Method 25E in 40 CFR part 60 appendix A; 2. Methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, "Evaporative Loss from External Floating-Roof Tanks," (incorporated by reference--refer to section 66260.11); 3. Methods obtained from standard reference texts; 4. ASTM Method 2879-92 (incorporated by reference--refer to section 66260.11); and 5. Any other method approved by the Department.

(A)

Sampling. A sufficient number of samples shall be collected to be representative of the waste contained in the tank. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, (incorporated by reference-- refer to section 66260.11(a)) or in Method 25D in 40 CFR part 60, appendix A.

(B)

Analysis. Any appropriate one of the following methods may be used to analyze the samples and compute the maximum organic vapor pressure of the hazardous waste: 1. Method 25E in 40 CFR part 60 appendix A; 2. Methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, "Evaporative Loss from External Floating-Roof Tanks," (incorporated by reference--refer to section 66260.11); 3. Methods obtained from standard reference texts; 4. ASTM Method 2879-92 (incorporated by reference--refer to section 66260.11); and 5. Any other method approved by the Department.

1.

Method 25E in 40 CFR part 60 appendix A;

2.

Methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, "Evaporative Loss from External Floating-Roof Tanks," (incorporated by reference--refer to section 66260.11);

3.

Methods obtained from standard reference texts;

4.

ASTM Method 2879-92 (incorporated by reference--refer to section 66260.11); and

5.

Any other method approved by the Department.

(4)

Use of knowledge to determine the maximum organic vapor pressure of the hazardous waste. Documentation shall be prepared and recorded that presents the information used as the basis for the owner's or operator's knowledge that the maximum organic vapor pressure of the hazardous waste is less than the maximum vapor pressure limit listed in section 66265.1085(b)(1)(A) for the applicable tank design capacity category. An example of information that may be used is documentation that the hazardous waste is generated by a process for which at other locations it previously has been determined by direct measurement that the waste maximum organic vapor pressure is less than the maximum vapor pressure limit for the appropriate tank design capacity category.

(d)

Procedure for determining no detectable organic emissions for the purpose of complying with this article: (1) The test shall be conducted in accordance with the procedures specified in Method 21 of 40 CFR part 60, appendix A. Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: The interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure relief valve. (2) The test shall be performed when the unit contains a hazardous waste having an organic concentration representative of the range of concentrations for the hazardous waste expected to be managed in the unit. During the test, the cover and closure devices shall be secured in the closed position. (3) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the hazardous waste placed in the waste management unit, not for each individual organic constituent. (4) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A. (5) Calibration gases shall be as follows: (A) Zero air (less than 10 ppmv hydrocarbon in air), and (B) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppmv methane or n-hexane. (6) The background level shall be determined according to the procedures in Method 21 of

40 CFR part 60, appendix A. (7) Each potential leak interface shall be checked by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21 of 40 CFR part 60, appendix A. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), the instrument probe inlet shall be placed at approximately the center of the exhaust area to the atmosphere. (8) The arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 500 ppmv except when monitoring a seal around a rotating shaft that passes through a cover opening, in which case the comparison shall be as specified in subsection (d)(9) of this section. If the difference is less than 500 ppmv, then the potential leak interface is determined to operate with no detectable organic emissions. (9) For the seals around a rotating shaft that passes through a cover opening, the arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 10,000 ppmw. If the difference is less than 10,000 ppmw, then the potential leak interface is determined to operate with no detectable organic emissions.

(1)

The test shall be conducted in accordance with the procedures specified in Method 21 of 40 CFR part 60, appendix A. Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: The interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure relief valve.

(2)

The test shall be performed when the unit contains a hazardous waste having an organic concentration representative of the range of concentrations for the hazardous waste expected to be managed in the unit. During the test, the cover and closure devices shall be secured in the closed position.

(3)

The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the hazardous waste placed in the waste management unit, not for each individual organic constituent.

(4)

The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(5)

Calibration gases shall be as follows: (A) Zero air (less than 10 ppmv hydrocarbon in air), and (B) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppmv methane or n-hexane.

(A)

Zero air (less than 10 ppmv hydrocarbon in air), and

(B)

A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppmv methane or n-hexane.

(6)

The background level shall be determined according to the procedures in Method 21 of 40 CFR part 60, appendix A.

(7)

Each potential leak interface shall be checked by traversing the instrument probe around the potential leak interface as close to the interface as possible, as described in Method 21 of 40 CFR part 60, appendix A. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), the instrument probe inlet shall be placed at approximately the center of the exhaust area to the atmosphere.

(8)

The arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 500 ppmv except when monitoring a seal around a rotating shaft that passes through a cover opening, in which case the comparison shall be as specified in subsection (d)(9) of this section. If the difference is less than 500 ppmv, then the potential leak interface is determined to operate with no detectable organic emissions.

(9)

For the seals around a rotating shaft that passes through a cover opening, the arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 10,000 ppmw. If the difference is less than 10,000 ppmw, then the potential leak interface is determined to operate with no detectable organic emissions.