(ii) The required mass removal is calculated by summing the required mass removal for all wastewater streams combined for treatment when complying with § 60.779(g)(1)(i) or (g)(2) of this subpart.

(5) *The AMR calculation procedure for non-combustion treatment processes including closed biological treatment processes.* The AMR shall be calculated as follows:

$$AMR = \left(QMW_a - QMW_b\right) \quad \text{(Eqn WW10)}$$

Where:

AMR=Actual mass removal of VOC achieved by treatment process or series of treatment processes, kilograms per hour.

QMW_a=Mass flow rate of VOC in wastewater entering the treatment process or first treatment process in a series of treatment processes, kilograms per hour.

QMW_b=Mass flow rate of VOC in wastewater exiting the last treatment process in a series of treatment processes, kilograms per hour.

(6) *Compare RMR to AMR.* When complying with § 60.779(f)(2)(i) or (f)(3) of this subpart, compare the RMR calculated in Equation WW9 to the AMR calculated in Equation WW10. Compliance is demonstrated if the AMR is greater than or equal to the RMR. When complying with § 60.779(g)(1)(i) or (g)(2) of this subpart, compare the RMR calculated in Equation WW9a to the AMR calculated in Equation WW10. Compliance is demonstrated if the AMR is greater than or equal to 95-percent mass removal.

(f) *Open or closed aerobic biological treatment processes: Required mass removal (RMR) option.* This paragraph (f) applies to the use of performance tests that are conducted for open or closed aerobic biological treatment processes to demonstrate compliance with the mass removal provisions for VOC. These compliance options are specified in § 60.779(f)(2)(i) and (f)(2)(ii) of this subpart. The owner or operator shall comply with the requirements specified in paragraphs (f)(1) through (f)(6) of this section. Some compounds may not require a performance test. Refer to paragraph (h) of this section and Table 14 of this subpart to determine which compounds may be exempt from the requirements of this paragraph (f).

(1) *Concentration in wastewater stream.* The concentration of VOC shall be determined as provided in this paragraph (f)(1). Concentration measurements to determine RMR shall be taken at the point of determination or downstream of the point of determination with adjustment for concentration change made according to § 60.782(b)(6) of this subpart. Concentration measurements to determine AMR shall be taken at the inlet and outlet to the treatment process and as provided in paragraph (a)(7) of this section for a series of treatment processes. Wastewater samples shall be collected using sampling procedures which minimize loss of organic compounds during sample collection and analysis and maintain sample integrity per § 60.782(b)(5)(ii) of this subpart. The method shall be an analytical method for wastewater which has that compound as a target analyte. Samples may be grab samples or composite samples. Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs.

(2) *Flow rate.* Flow rate measurements to determine RMR shall be taken at the point of determination or downstream of the point of determination with adjustment for flow rate change made according to § 60.782(c)(4) of this subpart. Flow rate measurements to determine AMR shall be taken at the inlet and outlet to the treatment process and as provided in paragraph (a)(7) of this section for a series of treatment processes. Flow rate shall be determined using inlet and outlet flow measurement devices. Where the outlet flow is not greater than the inlet flow, a flow measurement device shall be used, and may be used at either the inlet or outlet. Flow rate measurements shall be taken at the same time as the concentration measurements.

(3) *Calculation of RMR for open or closed aerobic biological treatment processes.* The required mass removal of VOC for each Group 1 wastewater stream shall be calculated using the following equation:

$$RMR = \frac{\rho}{10^9} Q \sum_{i=1}^{n} \left(C_i * Fr_i\right) \quad \text{(Eqn WW11)}$$

Where:

RMR=Required mass removal for treatment process or series of treatment processes, kilograms per hour.

ρ=Density of the Group 1 wastewater stream, kilograms per cubic meter.

Q=Volumetric flow rate of wastewater stream at the point of determination, liters per hour.

i=Identifier for a compound.

n=Number of VOC in stream.

C_i=Concentration of VOC at the point of determination, parts per million by weight.

Fr_i=Fraction removal value of a VOC. Follow the procedures in § 60.778 of this subpart to develop a stream-specific list of VOC. Follow the procedures in appendix J of this part to determine Fr values.

10^9=Conversion factor, mg/kg * l/m^3.

(4) The required mass removal is calculated by adding together the required mass removal for each Group 1 wastewater stream to be combined for treatment.

(5) *Actual mass removal calculation procedure for open or closed aerobic biological treatment processes.* The actual mass removal (AMR) shall be calculated using Equation WW12 as specified in paragraph (f)(5)(i) of this section when the performance test is performed across the open or closed aerobic biological treatment process only. If compliance is being demonstrated in accordance with paragraph (a)(7)(i) of this section, the AMR for the series shall be calculated using Equation WW13 in paragraph (f)(5)(ii) of this section. (This equation is for situations where treatment is performed in a series of treatment processes connected by hard-piping.) If compliance is being demonstrated in accordance with paragraph (a)(7)(ii) of this section, the AMR for the biological treatment process shall be calculated using Equation WW12 in paragraph (f)(5)(i) of this section. The AMR for the biological treatment process used in a series of treatment processes calculated using Equation WW12 shall be added to the AMR determined for each of the other individual treatment processes in the series of treatment processes.

(i) Calculate AMR for the open or closed aerobic biological treatment process as follows:

$$AMR = QMW_a * F_{bio} \quad \text{(Eqn WW12)}$$

Where:

AMR=Actual mass removal of VOC achieved by open or closed biological treatment process, kilograms per hour.

QMW_a=Mass flow rate of VOC in wastewater entering the treatment process, kilograms per hour.

F_{bio}=Site-specific fraction of VOC biodegraded. F_{bio} shall be determined as specified in paragraph (h) of this section and 40 CFR part 63, appendix C. Follow the procedures in § 60.778 of this subpart to develop a stream-specific list of VOC.

(ii) Calculate AMR across a series of treatment units where the last treatment

unit is an open or closed aerobic biological treatment process as follows:

$$AMR = QMW_a - (QMW_b)(1 - F_{bio}) \qquad \text{(Eqn WW13)}$$

Where:

AMR=Actual mass removal of VOC achieved by a series of treatment processes, kilograms per hour.

QMW_a=Mass flow rate of VOC in wastewater entering the first treatment process in a series of treatment processes, kilograms per hour.

QMW_b=Mass flow rate of VOC in wastewater exiting the last treatment process in a series of treatment processes prior to the biological treatment process, kilograms per hour.

F_{bio}=Site-specific fraction of VOC biodegraded. F_{bio} shall be determined as specified in paragraph (h) of this section and 40 CFR part 63, appendix C. Follow the procedures in § 60.778 of this subpart to develop a stream-specific list of VOC.

(6) *Compare RMR to AMR.* Compare the RMR calculated in Equation WW11 to the AMR calculated in either Equation WW12 or WW13, as applicable. Compliance is demonstrated if the AMR is greater than or equal to the RMR.

(g) *Open or closed aerobic biological treatment processes: 95-percent mass removal option.* This paragraph (g) applies to performance tests that are conducted for open or closed aerobic biological treatment processes to demonstrate compliance with the 95-percent mass removal provisions for VOC. This compliance option is specified in § 60.779(g) of this subpart. The RMR for this option is 95-percent mass removal. The owner or operator shall comply with the requirements specified in paragraphs (g)(1) of this section to determine AMR, paragraphs (e)(3)(ii) and (e)(4)(ii) of this section to determine RMR, and paragraph (g)(2) of this section to determine whether compliance has been demonstrated. Some compounds may not require a performance test. Refer to paragraph (h) of this section and Table 14 of this subpart to determine which compounds may be exempt from the requirements of this paragraph (g).

(1) The owner or operator shall comply with the requirements specified in paragraphs (f)(1), (f)(2), and (f)(5) of this section to determine AMR. References to Group 1 wastewater streams shall be deemed all wastewater streams combined for treatment for the purposes of this paragraph (g)(1).

(2) *Compare RMR to AMR.* Compliance is demonstrated if the AMR is greater than or equal to RMR.

(h) *Site-specific fraction biodegraded (F_{bio}).* The VOC are divided into two sets for the purposes of determining whether F_{bio} must be determined, and if F_{bio} must be determined, which procedures may be used to determine compound-specific kinetic parameters. These sets are VOC in Table 14 of this subpart, and all other VOC.

(1) *Performance test exemption.* If a biological treatment process meets the requirements specified in paragraphs (h)(1)(i) and (h)(1)(ii) of this section, the owner or operator is not required to determine F_{bio} and is exempt from the applicable performance test requirements specified in § 60.779 of this subpart.

(i) The biological treatment process meets the definition of ''enhanced biological treatment process'' in § 60.771 of this subpart.

(ii) At least 99 percent by weight of all VOC that are present in the aggregate of all wastewater streams using the biological treatment process to comply with § 60.779 of this subpart are compounds on Table 14 of this subpart.

(2) *F_{bio} determination.* If a biological treatment process does not meet the requirement specified in paragraph (h)(1)(i) of this section, the owner or operator shall determine F_{bio} for the biological treatment process using the procedures in 40 CFR part 63, appendix C, and paragraph (h)(2)(ii) of this section. If a biological treatment process meets the requirements of paragraph (h)(1)(i) of this section but does not meet the requirement specified in paragraph (h)(1)(ii) of this section, the owner or operator shall determine F_{bio} for the biological treatment process using the procedures in 40 CFR part 63, appendix C, and paragraph (h)(2)(i) of this section.

(i) *Enhanced biological treatment processes.* If the biological treatment process meets the definition of ''enhanced biological treatment process'' in § 60.771 of this subpart and the wastewater streams include one or more compounds not on Table 14 of this subpart that do not meet the criteria in paragraph (h)(1)(ii) of this section, the owner or operator shall determine F_{bio} for VOC not on Table 14 of this subpart using any of the procedures specified in 40 CFR part 63, appendix C. (stream-specific list) (The symbol F_{bio} represents the site specific fraction of an individual VOC that is biodegraded.) The owner or operator shall calculate F_{bio} for the VOC on Table 14 of this subpart using the defaults provided for first order biodegradation rate constants (K1) of this subpart and follow the procedure explained in Form III of 40 CFR part 63, appendix C, or any of the procedures specified in 40 CFR part 63, appendix C.

(ii) *Biological treatment processes that are not enhanced biological treatment processes.* For biological treatment processes that do not meet the definition for ''enhanced biological treatment process'' in § 60.771 of this subpart, the owner or operator shall determine the F_{bio} for VOC on Table 14 of this subpart and all other VOC using any of the procedures in 40 CFR part 63, appendix C, except procedure 3 (inlet and outlet concentration measurements).

(i) *Performance tests for control devices other than flares.* This paragraph (i) applies to performance tests that are conducted to demonstrate compliance of a control device with the efficiency limits specified in § 60.780(c) of this subpart. If complying with the 95-percent reduction efficiency requirement, comply with the requirements specified in paragraphs (i)(1) through (i)(9) of this section. If complying with the 20 ppm by volume requirement, comply with the requirements specified in paragraphs (i)(1) through (i)(6) and (i)(9) of this section. The 20 ppm by volume limit or 95 percent reduction efficiency requirement shall be measured as either total VOC or as TOC minus methane and ethane.

(1) *Sampling sites.* Sampling sites shall be selected using Method 1 or 1A of appendix A of this part, as appropriate. For determination of compliance with the 95 percent reduction requirement, sampling sites shall be located at the inlet and the outlet of the control device. For determination of compliance with the 20 parts per million by volume limit, the sampling site shall be located at the outlet of the control device.

(2) *Concentration in gas stream entering or exiting the control device.* The concentration of total VOC or TOC

in a gas stream shall be determined as provided in this paragraph (i)(2). Samples may be grab samples or composite samples (i.e., integrated samples). Samples shall be taken at approximately equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs. Concentration measurements shall be determined using Method 18, 40 CFR part 60, appendix A. Alternatively, any other test method validated according to the procedures in Method 301, 40 CFR part 60, appendix A may be used.

(3) *Volumetric flow rate of gas stream entering or exiting the control device.* The volumetric flow rate of the gas stream shall be determined using Method 2, 2A, 2C, or 2D, 40 CFR part 60, appendix A, as appropriate. Volumetric flow rate measurements shall be taken at the same time as the concentration measurements.

(4) *Calculation of TOC concentration.* The TOC concentration (CGT) is the sum of the concentrations of the individual components. If compliance is being determined based on TOC, the owner or operator shall compute TOC for each run using the following equation:

$$CG_T = \frac{1}{m}\sum_{j=1}^{m}\left(\sum_{i=1}^{n} CGS_{i,j}\right) \quad \text{(Eqn WW14)}$$

Where:

CG_T=Total concentration of TOC (minus methane and ethane) in vented gas stream, average of samples, dry basis, parts per million by volume.

$CGS_{i,j}$=Concentration of sample components in vented gas stream for sample j, dry basis, parts per million by volume.

i=Identifier for a compound.

n=Number of components in the sample.

j=Identifier for a sample.

m=Number of samples in the sample run.

(5) *Calculation of total VOC concentration.* The owner or operator determining compliance based on total VOC concentration (CVOC) shall compute C VOC according to the Equation WW14.

(6) *Percent oxygen correction for combustion control devices.* If the control device is a combustion device, comply with the requirements specified in paragraph (i)(6)(i) of this section to determine oxygen concentration, and in paragraph (i)(6)(ii) of this section to calculate the percent oxygen correction.

(i) *Oxygen concentration.* The concentration of TOC or total VOC shall be corrected to 3 percent oxygen if the control device is a combustion device. The emission rate correction factor for excess air, composite sampling (i.e., integrated sampling) and analysis procedures of Method 3B, 40 CFR part 60, appendix A shall be used to determine the actual oxygen concentration (%02d). The samples shall be taken during the same time that the TOC (minus methane or ethane) or total VOC samples are taken.

(ii) *3 percent oxygen calculation.* The concentration corrected to 3 percent oxygen (CGc), when required, shall be computed using the following equation:

$$CG_c = CG_T\left(\frac{17.9}{20.9 - \%O_{2d}}\right) \quad \text{(Eqn WW15)}$$

Where:

CG_c=Concentration of TOC or VOC corrected to 3 percent oxygen, dry basis, parts per million by volume.

CG_T=Total concentration of TOC (minus methane and ethane) in vented gas stream, average of samples, dry basis, parts per million by volume.

$\%0_{2d}$=Concentration of oxygen measured in vented gas stream, dry basis, percent by volume.

(7) *Mass rate calculation.* The mass rate of either TOC (minus methane and ethane) or total VOC shall be calculated using the following equations. Where the mass rate of TOC is being calculated, all organic compounds (minus methane and ethane) measured by methods specified in paragraph (i)(2) of this section are summed using Equations WW16 and WW17.

$$OMG_a = K_2\left(\sum_{i=1}^{n} CG_{a,i}MW_i\right)QG_a \quad \text{(Eqn WW16)}$$

$$OMG_b = K_2\left(\sum_{i=1}^{n} CG_{b,i}MW_i\right)QG_b \quad \text{(Eqn WW17)}$$

Where:

$CG_{a,i}$, $CG_{b,i}$=Concentration of TOC (minus methane and ethane) or total VOC, in vented gas stream, entering ($CG_{a,i}$) and exiting ($CG_{b,i}$) the control device, dry basis, parts per million by volume.

QMG_a, QMG_b=Mass rate of TOC (minus methane and ethane) or total VOC, in vented gas stream, entering (QMG_a) and exiting (QMG_b) the control device, dry basis, kilograms per hour.

Mw_i=Molecular weight of a component, kilogram/kilogram-mole.

QG_a,QG_b=Flow rate of gas stream entering (QG_a) and exiting (QG_b) the control device, dry standard cubic meters per hour.

K_2=Constant, 41.57 x 10^{-9} (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram), where standard temperature (gram-mole per standard cubic meter) is 20° Celsius.

i=Identifier for a compound.

n=Number of components in the sample.

(8) *Percent reduction calculation.* The percent reduction in TOC (minus methane and ethane) or total VOC shall be calculated as follows:

$$E = \frac{QMG_a - QMG_b}{QMG_a}(100\%) \qquad \text{(Eqn WW18)}$$

Where:

E=Destruction efficiency of control device, percent.

QMG_a,QMG_b=Mass rate of TOC (minus methane and ethane) or total VOC, in vented gas stream entering and exiting (QMG_b) the control device, dry basis, kilograms per hour.

(9) *Compare mass destruction efficiency to required efficiency.* If complying with the 95 percent reduction efficiency requirement, compliance is demonstrated if the mass destruction efficiency (calculated in Equation WW18) is 95 percent or greater. If complying with the 20 parts per million by volume limit in § 60.780(c) of this subpart, compliance is demonstrated if the outlet total organic compound concentration, less methane and ethane, or total VOC concentration is 20 parts per million by volume, or less. For combustion control devices, the concentration shall be calculated on a dry basis, corrected to 3 percent oxygen.

(j) *Compliance demonstration for flares.* When a flare is used to comply with § 60.780(c) of this subpart, the owner or operator shall comply with the flare provisions in 40 CFR 63.11(b) and table 2A of this subpart, and with paragraphs (j)(1), (j)(2), and (j)(3) of this section. An owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet VOC or TOC concentration when a flare is used. If a compliance demonstration has been conducted previously for a flare, using the techniques specified in paragraphs (h)(1) through (h)(3) of this section, that compliance demonstration may be used to satisfy the requirements of this paragraph (j) if either no deliberate process changes have been made since the compliance demonstration, or the results of the compliance demonstration reliably demonstrate compliance despite process changes.

(1) The compliance determination shall be conducted as specified in 40 CFR 63.11(b)(4) and table 2A of this subpart, to determine visible emissions.

(2) Determine the net heating value of the gas being combusted, using the techniques specified in 40 CFR 63.11(b)(6) and table 2A of this subpart; and

(3) Determine the exit velocity using the techniques specified in either 40 CFR 63.11(b)(7)(i) (and 40 CFR 63.11(b)(7)(iii), where applicable) or 40 CFR 63.11(b)(8), and table 2A of this subpart, as appropriate.

§ 60.784 Reporting requirements.

(a) Owners or operators requesting approval to use alternative monitoring, recordkeeping, or reporting shall comply with the provisions in paragraph (b) of this section. Each owner or operator shall submit the reports specified in paragraphs (a)(1) through (a)(4) of this section, as applicable:

(1) Reports required by subpart A of part 60 of this part, as specified in table 2 of this subpart,

(2) Reports of certain subpart A provisions of 40 CFR part 63, as required by table 2A of this subpart,

(3) Reports required in paragraphs (c) through (g) of this section, and

(4) Start-up, shutdown, and malfunction reports specified in § 60.787 of this subpart.

(b) *Alternative monitoring and recordkeeping.* An owner or operator may request approval to use alternatives to the continuous operating parameter monitoring and recordkeeping provisions of this subpart.

(1) Requests for approval to use alternatives to the continuous monitoring and recordkeeping provisions shall be submitted prior to the implementation of the alternative monitoring system for which approval is being requested if not already included in the operating permit application. The request shall contain the information specified in paragraphs (b)(3) and (b)(4) of this section, as applicable.

(2) [Reserved]

(3) An owner or operator of an affected facility that does not have an automated monitoring and recording system capable of measuring parameter values at least once every 15 minutes and generating continuous records may request approval to use a non-automated system with less frequent monitoring.

(i) The requested system shall include manual reading and recording of the value of the relevant operating parameter no less frequently than once per hour. Daily average values shall be calculated from these hourly values and recorded.

(ii) The request shall contain:

(A) A description of the planned monitoring and recordkeeping system;

(B) Documentation that the affected facility does not have an automated monitoring and recording system;

(C) Justification for requesting an alternative monitoring and recordkeeping system; and

(D) Demonstration to the Administrator's satisfaction that the proposed monitoring frequency is sufficient to represent control device operating conditions considering typical variability of the specific process and control device operating parameter being monitored.

(4) An owner or operator may request approval to use an automated data compression recording system that does not record monitored operating parameter values at a set frequency (for example once every 15 minutes) but records all values that meet set criteria for variation from previously recorded values.

(i) The requested system shall be designed to:

(A) Measure the operating parameter value at least once every 15 minutes.

(B) Record at least four values each hour during periods of operation.

(C) Record the date and time when monitors are turned off or on.

(D) Recognize unchanging data that may indicate the monitor is not functioning properly, alert the operator, and record the incident.

(E) Compute daily average values of the monitored operating parameter based on recorded data.

(F) If the daily average is not an excursion, as defined in paragraphs (d)(3)(i) through (d)(3)(iii) of this section, the data for that operating day may be converted to hourly average values and the four or more individual records for each hour in the operating day may be discarded.

(ii) The request shall contain a description of the monitoring system and data compression recording system, including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets all criteria in paragraph (b)(4)(i) of this section.

(5) [Reserved]

(6) For each waste management unit, treatment process, or control device used to comply with §§ 60.774 through 60.775 of this subpart for which the owner or operator seeks to monitor a parameter other than those specified in Table 5, Table 7, and Table 8 of this subpart, the owner or operator shall submit a request for approval to monitor alternative parameters. The owner or operator who requests approval to

monitor a different parameter than those listed in Table 5, Table 7, and Table 8 of this subpart shall submit the information specified in paragraphs (b)(6)(i), (ii), and (iii) of this section.

(i) A description of the parameter(s) to be monitored to ensure the waste management unit, treatment process, or control device measure is operated in conformance with its design and achieves the specified emission limit, percent reduction, or nominal efficiency, and an explanation of the criteria used to select the parameter(s).

(ii) A description of the methods and procedures that will be used to demonstrate that the parameter indicates proper operation of the waste management unit, treatment process, or control device, the schedule for this demonstration, and a statement that the owner or operator will establish, as part of the demonstration, an operating parameter value for the monitored parameter that indicates proper operation and maintenance of the unit, process, or device.

(iii) The frequency and content of monitoring, recording, and reporting if monitoring and recording is not continuous, or if semiannual reports required under paragraph (d) of this section will not include reports of daily average values when the monitored operating parameter is not above or below (as appropriate) the operating parameter value established in paragraph (c)(7)(ii) of this section. The rationale for the proposed monitoring, recording, and reporting system shall be included.

(c) *Notification of Compliance Status.* Each owner or operator subject to this subpart shall submit a Notification of Compliance Status within 150 days after the compliance dates specified in § 60.770(a) of this subpart. The Notification of Compliance Status shall include the results of any emission point group determinations, performance tests, inspections, continuous monitoring system performance evaluations, values of monitored parameters established during performance tests, and any other information specified in paragraphs (c)(1) through (c)(14) of this section used to demonstrate compliance or required to be included in the Notification of Compliance Status.

(1) The owner or operator shall identify each designated CPU and list the components in the designated CPU. The owner or operator shall identify each affected facility and describe the process wastewater, maintenance wastewater, and aqueous in-process streams generated by the affected facility. The information shall clearly link all applicable CPU, designated CPU, and affected facilities and demonstrate that all components of a CPU were assigned to a designated CPU.

(2) For each affected facility, the owner or operator shall submit the information specified in Table 9 of this subpart for each wastewater stream generated.

(3) For each treatment process identified in Table 9 of this subpart that receives, manages, or treats a wastewater stream (i.e., Group 1 wastewater stream or Group 2 wastewater stream selected by the owner or operator for control) or residual removed from a wastewater stream, the owner or operator shall submit the information specified in Table 10 of this subpart.

(4) For each waste management unit identified in Table 9 of this subpart that receives or manages a wastewater stream (i.e., Group 1 wastewater stream or Group 2 wastewater stream selected by the owner or operator for control) or residual removed from a wastewater stream, the owner or operator shall submit the information specified in Table 11 of this subpart.

(5) For each waste management unit identified in table 9 of this subpart, the owner or operator shall include in the Notification of Compliance Status the compliance option that will be used to comply with § 60.774 of this subpart, and the applicable provisions of other subparts that the owner or operator will use to comply with the compliance option, as allowed in § 60.774 of this subpart.

(6) For each residual removed from a wastewater stream (i.e., Group 1 wastewater stream or Group 2 wastewater stream selected by the owner or operator for control), the owner or operator shall submit the information specified in Table 12 of this subpart.

(7) For each control device used to comply with §§ 60.774, 60.775, and 60.779 of this subpart, the owner or operator shall submit the information specified in paragraphs (c)(7)(i) and (c)(7)(ii) of this section.

(i) For each flare, the owner or operator shall submit the information specified in paragraphs (c)(7)(i)(A) through (c)(7)(i)(C) of this section.

(A) Flare design (i.e., steam-assisted, air-assisted, or non-assisted);

(B) All visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination as specified by § 60.780(c)(3) of this subpart; and

(C) Reports of the times and durations of all periods during the compliance determination when the pilot flame is absent or the monitor is not operating.

(ii) For each control device other than a flare, the owner or operator shall submit the information specified in paragraph (c)(7)(ii)(A) of this section and in either paragraph (c)(7)(ii)(B) or (c)(7)(ii)(C) of this section.

(A) The information in paragraphs (c)(7)(ii)(A)(*1*), (*2*), and (*3*) of this section on operating parameter values required to be established under § 60.781(f) of this subpart for the applicable parameters specified in Table 8 of this subpart, unless the operating parameter value has already been established in the operating permit.

(*1*) The specific operating parameter value of the monitored parameter(s) for each emission point;

(*2*) The rationale for the specific operating parameter value for each parameter for each emission point, including any data and calculations used to develop the value and a description of why the value indicates proper operation of the control device.

(*i*) If a performance test is conducted for a control device, the operating parameter value shall be based on the parameter values measured during the performance test supplemented by engineering analyses and/or manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of permitted parameter values.

(*ii*) If a performance test is not conducted for a control device, the operating parameter value may be based solely on engineering analyses and/or manufacturer's recommendations.

(*3*) A definition of the affected facility's operating day for purposes of determining daily average values of monitored parameters. The definition shall specify the times at which an operating day begins and ends.

(B) The design evaluation specified in § 60.780(d)(2) of this subpart; or

(C) Results of the performance test specified in § 60.780(d)(1) of this subpart. Performance test results shall include operating ranges of key process and control parameters during the performance test; the value, averaged over the period of the performance test, of each parameter identified in the operating permit as being monitored in accordance with § 60.781 of this subpart; and applicable supporting calculations.

(8) For each treatment process used to comply with this subpart, the owner or operator shall submit the information specified in paragraphs (c)(8)(i) and (c)(8)(ii) of this section.

(i) For Items 1 and 2 in Table 7 of this subpart, the owner or operator shall

submit the information specified in paragraphs (c)(8)(i)(A) and (c)(8)(i)(B) of this section.

(A) The information specified in paragraph (c)(6)(ii)(A) of this section for the operating parameter value required to be established under § 60.781(f) of this subpart for the monitoring parameters approved by the Administrator, unless the operating parameter value has already been established in the operating permit.

(B) Results of the initial measurements of the parameters approved by the Administrator and any applicable supporting calculations.

(ii) For Item 3 in Table 7 of this subpart, the owner or operator shall submit the information specified in paragraph (c)(7)(ii)(A) of this section for the monitored operating parameter values required to be established under § 60.781(f) of this subpart, unless the operating parameter value has already been established in the operating permit.

(9) Except as provided in paragraph (c)(9)(iii) of this section, for each waste management unit or treatment process used to comply with this subpart, the owner or operator shall submit the information specified in either paragraph (c)(9)(i) or (c)(9)(ii) of this section.

(i) The design evaluation and supporting documentation specified in § 60.779(j)(1) of this subpart.

(ii) Results of the performance test specified in § 60.779(j)(2) of this subpart. Performance test results shall include operating ranges of key process and control parameters during the performance test; the value, averaged over the period of the performance test, of each parameter identified in the operating permit as being monitored in accordance with § 60.781(f) of this subpart; and applicable supporting calculations.

(iii) If the owner or operator elects to use one of the options for treatment in a RCRA unit specified in § 60.779(h) of this subpart, the owner or operator is exempt from the requirements specified in paragraphs (c)(9)(i) and (c)(9)(ii) of this section.

(10) For performance tests and group determinations that are based on measurements, and for estimates of VOC emissions, the Notification of Compliance Status shall include one complete test report for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other information required shall be submitted, but a complete test report is not required. A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(11) An owner or operator who transfers a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream for treatment pursuant to § 60.773(e) shall include in the Notification of Compliance Status the name and location of the transferee and a description of the Group 1 wastewater stream or residual removed from a Group 1 wastewater stream sent to the treatment facility.

(12) The owner or operator who chooses to comply with the provisions in § 60.789 of this subpart shall include in the Notification of Compliance Status a statement specifying which regulation(s) is being used to comply with this subpart.

(13) Notification that the owner or operator has elected to comply with the reduced recordkeeping program in 60.785(j) of this subpart.

(14) Notification of the waste management unit compliance option used to comply with the provisions of this subpart, as specified in § 60.774 of this subpart, shall be submitted in the Notification of Compliance Status. If the owner or operator is complying with the recordkeeping and reporting provisions of a rule other than this subpart, as specified in § 60.774 of this subpart, a statement containing this information shall be submitted.

(d) *Semiannual reports.* Each owner or operator subject to the provisions of this subpart shall submit to the Administrator semiannual reports. The reports shall be submitted semiannually no later than 60 calendar days after the end of each 6-month period. The first report shall be submitted no later than 8 months after the due date of the notification of initial start-up required by § 60.7(a)(3) of this part and shall cover the 6-month period beginning on the due date of the notification of initial start-up.

(1) [Reserved]

(2) The semiannual report shall include reports of all excursions and all periods when monitoring parameters are above the maximum or below the minimum established value.

(3) The semiannual report shall include the daily average values of monitored parameters for all excursions, as defined by paragraphs (d)(3)(i), (d)(3)(ii), or (d)(3)(iii) of this section. For excursions caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be reported. For a control device where multiple parameters are monitored, if one or more of the parameters meets the excursion criteria in paragraphs (d)(3)(i), (d)(3)(ii), or (d)(3)(iii) of this section, this is considered a single excursion for the control device.

(i) When the daily average value of one or more monitored parameters is above the maximum or below the minimum (as appropriate) established operating parameter value.

(ii) When the period of control device operation is 4 hours or greater in an operating day and monitoring data are insufficient to constitute a valid hour of data for at least 75 percent of the operating hours.

(iii) When the period of control device operation is less than 4 hours in an operating day and more than one of the hours during the period of operation does not constitute a valid hour of data due to insufficient monitoring data.

(iv) Monitoring data are insufficient to constitute a valid hour of data, as used in paragraphs (d)(3)(ii) and (d)(3)(iii) of this section, if measured values are unavailable for any of the 15-minute periods within the hour. For data compression systems approved under paragraph (b)(4) of this section, monitoring data are insufficient to calculate a valid hour of data if there are less than 4 data values recorded during the hour.

(4) Each control device is allowed one excused excursion per semiannual period. The first semiannual period is the 6-month period covered by the first semiannual report.

(5)(i) Paragraphs (d)(5)(i)(A) through (d)(5)(i)(D) of this section specify when an excursion is not a violation. In cases where continuous monitoring is required, the excursion does not count toward the number of excused excursions for determining compliance.

(A) If a monitored parameter is below the minimum established value and the affected facility is operated during such period in accordance with the affected facility's start-up, shutdown, and malfunction plan,

(B) If a monitored parameter is above the maximum established value and the affected facility is operated during such period in accordance with the affected facility's start-up, shutdown, and malfunction plan,

(C) If monitoring data are not collected during periods of start-up, shutdown, or malfunction and the

affected facility is operated during such period in accordance with the affected facility's start-up, shutdown, and malfunction plan, or

(D) If cessation of the emissions to which the monitoring applies occurs during periods of non-operation of the chemical process unit or portion thereof.

(ii) Nothing in paragraphs (d)(3) through (d)(5) of this section shall be construed to allow or excuse a monitoring parameter excursion caused by any activity that violates other applicable provisions of this subpart.

(iii) Paragraphs (d)(3) through (d)(5) of this section, except paragraph (d)(5)(i) of this section, shall apply only to emission points and control devices for which continuous monitoring is required by this subpart.

(6) The semiannual report shall include results of any performance tests conducted during the reporting period including one complete report for each test method used for a particular kind of emission point tested. For additional tests performed for a similar emission point using the same method, results and any other information required shall be submitted, but a complete test report is not required. A complete test report shall contain a brief process description, sampling site data, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.

(7) The semiannual report shall include notification that the owner or operator has elected to comply with the reduced recordkeeping program in § 60.785(j) of this subpart.

(8) The semiannual report shall include notification that the owner or operator has elected not to retain the daily average values, as specified in § 60.785(j)(2)(i) of this subpart.

(9) The semiannual report shall include periods recorded under § 60.785(f)(10) of this subpart when the vent is diverted from the control device through a bypass line, with the next semiannual report.

(10) The semiannual report shall include notification of all occurrences recorded under § 60.785(f)(11) of this subpart in which the seal mechanism is broken, the bypass line damper or valve position has changed, or the key to unlock the bypass line damper or valve was checked out, with the next semiannual report.

(11) The semiannual report shall include notification that semiannual report information for waste management units will be submitted with semiannual reports required by another rule that is one of the compliance options for waste management units as specified in § 60.784 of this subpart.

(12) The semiannual report shall include notification of each affected facility that ceases to generate at least one process wastewater stream or aqueous in-process stream or no longer produces a primary product that is a SOCMI product.

(e) *Semiannual reporting for treatment processes.* Except as provided in paragraph (g) of this section, for each treatment process used to comply with this subpart, the owner or operator shall submit as part of the next semiannual report required by paragraph (d) of this section the information specified in paragraphs (e)(1) and (e)(2) of this section.

(1) For Item 1 in Table 7 of this subpart, the owner or operator shall submit the results of measurements that indicate that the biological treatment unit is outside the parameters established in the Notification of Compliance Status or operating permit.

(2) For Item 2 in Table 7 of this subpart, the owner or operator shall submit the monitoring results for each operating day during which the daily average value of any monitored parameter was above the maximum or below the minimum operating parameter value established in the Notification of Compliance Status or operating permit.

(3) For Item 3 in Table 7 of this subpart, the owner or operator shall submit the monitoring results for each operating day during which the daily average value of any monitored parameter specified in Item 3 of Table 7 of this subpart was above the maximum or below the minimum (as appropriate) operating parameter value established in the Notification of Compliance Status or operating permit.

(f) *Semiannual reporting for control devices.* Except as provided in paragraph (g) of this section, for each control device used to comply with §§ 60.774 through 60.780 of this subpart, the owner or operator shall submit as part of the next semiannual report required by paragraph (d) of this section the information specified in either paragraph (f)(1) or (f)(2) of this section.

(1) The information specified in Table 13 of this subpart, or

(2) If the owner or operator elects to comply with § 60.781(e)(2) of this subpart, i.e., an organic monitoring device installed at the outlet of the control device, the owner or operator shall submit the monitoring results for each operating day during which the daily average concentration level or reading is above the maximum or below the minimum (as appropriate) operating parameter value established as a requirement of § 60.781(f) of this subpart or established in the facility's operating permit.

(g) Where the owner or operator obtains approval to use a treatment process or control device other than one for which monitoring requirements are specified in § 60.781 of this subpart, or to monitor parameters other than those specified in Table 7 or 8 of this subpart, the owner or operator shall comply with the appropriate reporting requirements established by the Administrator.

§ 60.785 Recordkeeping requirements.

(a) Data retention requirements are specified in paragraph (b) of this section. Each owner or operator shall keep the records specified in paragraphs (a)(1) through (a)(4) of this section, as applicable:

(1) Records required by subpart A of part 60 of this part, as specified in table 2 of this subpart,

(2) Records of certain subpart A provisions of 40 CFR part 63, as required by table 2A of this subpart,

(3) Records required in paragraphs (c) through (j) of this section, and

(4) Start-up, shutdown, and malfunction records specified in § 60.787 of this subpart.

(b) *Data retention.* Unless otherwise specified in this subpart, each owner or operator of an affected facility shall keep copies of all applicable records and reports required by this subpart for at least 5 years. All applicable records shall be maintained in such a manner that they can be readily accessed. Records of the most recent 2 years shall be retained onsite or shall be accessible to an inspector while onsite. The records of the remaining 3 years may be retained offsite. Records may be maintained in hard copy or computer-readable form including, but not limited to, on paper, microfilm, computer, floppy disk, magnetic tape, or microfiche.

(c) *Miscellaneous records.* The owner or operator shall keep the records specified in paragraphs (c)(1) through (c)(8) of this section.

(1) A record that each waste management unit inspection required by § 60.774 of this subpart was performed.

(2) A record that each inspection for control devices required by § 60.780(f) of this subpart was performed.

(3) For Item 1 and Item 2 of Table 7 of this subpart, the owner or operator shall keep the records approved by the Administrator.

(4) Except as provided in paragraph (c)(5) of this section, continuous records of the monitored parameters specified in Item 3 of Table 7, in Table 8, or in § 60.781(e)(2) of this subpart, as appropriate.

(5) Where the owner or operator obtains approval to use a treatment process or control device other than one for which monitoring requirements are specified in § 60.781 of this subpart, or to monitor parameters other than those specified in Table 7 or Table 8 of this subpart, the owner or operator shall comply with the recordkeeping requirements established by the Administrator as part of the review of the permit application or other appropriate means.

(6) The owner or operator who is complying with the provisions in § 60.789(c)(1) of this subpart shall keep a record of the information used to determine which control, testing, monitoring, recordkeeping, and reporting requirements are the most stringent.

(7) Documentation of a decision to use a delay of repair due to unavailability of parts, as specified in § 60.777(c) of this subpart, shall include a description of the failure, the reason additional time was necessary (including a statement of why replacement parts were not kept on site and when the manufacturer promised delivery), the date when repair would have been completed if parts had been available, and the date when repair was completed.

(8) The owner or operator shall keep a record of each affected facility that ceases to generate at least one process wastewater stream or aqueous in-process stream or no longer produces a primary product that is a SOCMI product.

(d) *Record of notice sent to treatment operator.* The owner or operator transferring a Group 1 wastewater stream or residual removed from a Group 1 wastewater stream in accordance with § 60.773(e) of this subpart shall keep a record of the notice sent to the treatment operator stating that the wastewater stream or residual contains VOC which are required to be managed and treated in accordance with the provisions of this subpart.

(e) *Control device records.* For each control device used to comply with this subpart, the owner or operator shall keep a record of the information specified in paragraphs (e)(1) through (e)(3) of this section.

(1) Identification of all parts of the control device that are designated as unsafe to inspect, as specified in § 60.786(g) of this subpart, an explanation stating why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the control device that are designated as difficult to inspect, as specified in § 60.786(h) of this subpart, an explanation stating why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each boiler or process heater used to comply with this subpart, the owner or operator shall keep a record of any changes in the location at which the vent stream is introduced into the flame zone.

(f) *Continuous records.* Owners or operators required to keep continuous records by any section of this subpart shall keep records as specified in paragraphs (f)(1) through (f)(11) of this section, unless an alternative recordkeeping system has been requested and approved under § 60.784(b) of this subpart, except as provided in § 60.784(d)(5)(i) of this subpart.

(1) The monitoring system shall measure data values at least once every 15 minutes.

(2) The owner or operator shall record either:

(i) Each measured data value; or

(ii) Block average values for 15-minute or shorter periods calculated from all measured data values during each period or at least one measured data value per minute if measured more frequently than once per minute.

(3) If the daily average value of a monitored parameter for a given operating day is below the maximum or above the minimum established value in the report required by § 60.784(c) of this subpart or the operating permit, the owner or operator shall either:

(i) Retain block hourly average values for that operating day for 5 years and discard, at or after the end of that operating day, the 15-minute or more frequent average values and readings recorded under paragraph (f)(2) of this section; or

(ii) Retain the data recorded in paragraph (f)(2) of this section for 5 years.

(4) If the daily average value of a monitored parameter for a given operating day is above the maximum or below the minimum established value in the report required by § 60.784(c) of this subpart or operating permit, the owner or operator shall retain the data recorded that operating day under paragraph (f)(2) of this section for 5 years.

(5) Daily average values of each continuously monitored parameter shall be calculated for each operating day, and retained for 5 years, except as specified in paragraphs (f)(6) and (f)(7) of this section.

(i) The daily average shall be calculated as the average of all values for a monitored parameter recorded during the operating day. The average shall cover a 24-hour period if operation is continuous, or the number of hours of operation per operating day if operation is not continuous.

(ii) The operating day shall be the period defined in the operating permit or the report required by § 60.784(c) of this subpart. It may be from midnight to midnight or another daily period.

(6) If all recorded values for a monitored parameter during an operating day are below the maximum or above the minimum established value in the report required by § 60.784(c) of this subpart or operating permit, the owner or operator may record this fact and retain this record for 5 years rather than calculating and recording a daily average for that operating day. For these operating days, the records required in paragraph (f)(3) of this section shall also be retained for 5 years.

(7) Monitoring data recorded during periods identified in paragraphs (f)(7)(i) through (f)(7)(v) of this section shall not be included in any average computed under this subpart. Records shall be kept of the times and durations of all such periods and any other periods during process or control device operation when monitors are not operating.

(i) Monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments:

(ii) Start-ups;

(iii) Shutdowns;

(iv) Malfunctions;

(v) Periods of non-operation of the chemical process unit (or portion thereof), resulting in cessation of the emissions to which the monitoring applies.

(8) For flares, records of the times and duration of all periods during which all pilot flames are simultaneously absent shall be kept rather than daily averages.

(9) For carbon adsorbers, the owner or operator shall keep the records specified in paragraphs (e)(9)(i) and (e)(9)(ii) of this section instead of daily averages.

(i) Records of the total regeneration stream mass flow for each carbon bed regeneration cycle.

(ii) Records of the temperature of the carbon bed after each regeneration cycle.

(10) Hourly records of whether the flow indicator for bypass lines specified in § 60.786(f)(1) of this subpart was operating and whether a diversion was detected at any time during the hour. Also, records of the times of all periods when the vent is diverted from the control device or the flow indicator specified in § 60.786(f)(1) of this subpart is not operating.

(11) Where a seal or closure mechanism is used to comply with § 60.786(f)(2) of this subpart, hourly records of whether a diversion was detected at any time are not required. The owner or operator shall record whether the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line damper or valve position has changed, or the key for a lock-and-key type configuration has been checked out, and records of any car-seal that has broken.

(g) *Process knowledge records.* If the owner or operator determines that a wastewater stream is not a Group 1 wastewater stream by using process knowledge to determine the annual average concentration of a wastewater stream as specified in § 60.782(b)(3) of this subpart and/or uses process knowledge to determine the annual average flow rate as specified in § 60.782(c)(1) of this subpart, the owner or operator shall keep the documentation of how process knowledge was used to determine the annual average concentration and/or the annual average flow rate of the wastewater stream as specified in § 60.782(b)(3) or (c)(1) of this subpart, as appropriate.

(h) *Continuous monitoring system records.* For continuous monitoring systems used to comply with this subpart, records documenting the completion of calibration checks, and records documenting the maintenance of continuous monitoring systems that are specified in the manufacturer's instructions or that are specified in other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.

(i) [Reserved]

(j) *Reduced recordkeeping program.* For any parameter with respect to any item of equipment, the owner or operator may implement the recordkeeping requirements specified in paragraph (j)(1) or (j)(2) of this section as alternatives to the continuous operating parameter monitoring and recordkeeping provisions specified in this subpart. The owner or operator shall retain for a period of 5 years each record required by paragraph (j)(1) or (j)(2) of this section.

(1) The owner or operator may retain only the daily average value, and is not required to retain more frequent monitored operating parameter values, for a monitored parameter with respect to an item of equipment, if the requirements of paragraphs (j)(1)(i) through (j)(1)(vi) of this section are met. An owner or operator electing to comply with the requirements of paragraph (j)(1) of this section shall notify the Administrator in the Notification of Compliance Status as specified in § 60.784(c)(13) of this subpart or, if the Notification of Compliance Status has already been submitted, in the semiannual report immediately preceding implementation of the requirements of paragraph (j)(1) of this section as specified in § 60.784(d)(7) of this subpart.

(i) The monitoring system is capable of detecting unrealistic or impossible data during periods of operation other than start-ups, shutdowns, or malfunctions (e.g., a temperature reading of −200°C on a boiler), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.

(ii) The monitoring system generates, updated at least hourly throughout each operating day, a running average of the monitoring values that have been obtained during that operating day, and the capability to observe this running average is readily available to the Administrator on-site during the operating day. The owner or operator shall record the occurrence of any period meeting the criteria in paragraphs (j)(1)(ii)(A) through (j)(1)(ii)(C) of this section. All instances in an operating day constitute a single occurrence.

(A) The running average is above the maximum or below the minimum established limits;

(B) The running average is based on at least six 1-hour average values; and

(C) The running average reflects a period of operation other than a start-up, shutdown, or malfunction.

(iii) The monitoring system is capable of detecting unchanging data during periods of operation other than start-ups, shutdowns, or malfunctions, except in circumstances where the presence of unchanging data is the expected operating condition based on past experience (e.g., pH in some scrubbers), and will alert the operator by alarm or other means. The owner or operator shall record the occurrence. All instances of the alarm or other alert in an operating day constitute a single occurrence.

(iv) The monitoring system will alert the owner or operator by an alarm or other means, if the running average parameter value calculated under paragraph (j)(1)(ii) of this section reaches a set point that is appropriately related to the established limit for the parameter that is being monitored.

(v) The owner or operator shall verify the proper functioning of the monitoring system, including its ability to comply with the requirements of paragraph (j)(1) of this section, at the times specified in paragraphs (j)(1)(v)(A) through (j)(1)(v)(C). The owner or operator shall document that the required verifications occurred.

(A) Upon initial installation.

(B) Annually after initial installation.

(C) After any change to the programming or equipment constituting the monitoring system, which might reasonably be expected to alter the monitoring system's ability to comply with the requirements of this section.

(vi) The owner or operator shall retain the records identified in paragraphs (j)(1)(vi)(A) through (j)(1)(vi)(D) of this section.

(A) Identification of each parameter, for each item of equipment, for which the owner or operator has elected to comply with the requirements of paragraph (j) of this section.

(B) A description of the applicable monitoring system(s), and of how compliance will be achieved with each requirement of paragraphs (j)(1)(i) through (j)(1)(v) of this section. The description shall identify the location and format (e.g., on-line storage, log entries) for each required record. If the description changes, the owner or operator shall retain both the current and the most recent superseded description, as provided in paragraph (a) of this section, except as provided in paragraph (j)(1)(vi)(D) of this section.

(C) A description, and the date, of any change to the monitoring system that would reasonably be expected to impair its ability to comply with the requirements of paragraph (j)(1) of this section.

(D) Owners and operators subject to paragraph (j)(1)(vi)(B) of this section shall retain the current description of the monitoring system as long as the description is current, but not less than 5 years from the date of its creation. The current description shall, at all times, be retained on-site or be accessible from a central location by computer or other means that provides access within 2

hours after a request. The owner or operator shall retain all superseded descriptions for at least 5 years after the date of their creation. Superseded descriptions shall be retained on-site (or accessible from a central location by computer or other means that provides access within 2 hours after a request) for at least 6 months after their creation. Thereafter, superseded descriptions may be stored off-site.

(2) If an owner or operator has elected to implement the requirements of paragraph (j)(1) of this section for a monitored parameter with respect to an item of equipment and a period of 6 consecutive months has passed without an excursion as defined in paragraph (j)(2)(iv) of this section, the owner or operator is no longer required to record the daily average value for any operating day when the daily average value is less than the maximum or greater than the minimum established limit. With approval by the Administrator, monitoring data generated prior to the compliance date of this subpart shall be credited toward the period of 6 consecutive months, if the parameter limit and the monitoring accomplished during the period prior to the compliance date was required and/or approved by the Administrator.

(i) If the owner or operator elects not to retain the daily average values, the owner or operator shall notify the Administrator in the next semiannual report as specified in § 60.784(d)(8) of this subpart. The notification shall identify the parameter and unit of equipment.

(ii) If, on any operating day after the owner or operator has ceased recording daily average values as provided in paragraph (j)(2) of this section, there is an excursion as defined in paragraph (j)(2)(iv) of this section, the owner or operator shall immediately resume retaining the daily average value for each operating day and shall notify the Administrator in the next semiannual report. The owner or operator shall continue to retain each daily average value until another period of 6 consecutive months has passed without an excursion as defined in paragraph (j)(2)(iv) of this section.

(iii) The owner or operator shall retain the records specified in paragraphs (j)(1)(i) through (j)(1)(iv) of this section, for the duration specified in paragraph (j) of this section. For any calendar week, if compliance with paragraphs (j)(1)(i) through (j)(1)(iv) of this section does not result in retention of a record of at least one occurrence or measured parameter value, the owner or operator shall record and retain at least one parameter value during a period of operation other than a start-up, shutdown, or malfunction.

(iv) For purposes of paragraph (j) of this section, an excursion means that the daily average value of monitoring data for a parameter is greater than the maximum, or less than the minimum established value, except that the daily average value during any start-up, shutdown, or malfunction shall not be considered an excursion for purposes of paragraph (j)(2) of this section, if the owner or operator follows the applicable provisions of the start-up, shutdown, and malfunction plan required by § 60.787 of this subpart. An excused excursion, as described in § 60.784(d)(4) of this subpart, shall not be considered an excursion for purposes of this paragraph (j)(2).

§ 60.786 Leak inspection provisions.

(a) For each vapor collection system, closed-vent system, fixed roof, cover, or enclosure required to comply with this section, the owner or operator shall comply with the requirements of paragraphs (b) through (i) of this section, unless otherwise specified in this subpart.

(b) Except as provided in paragraphs (g) and (h) of this section, each vapor collection system and closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (b)(1) and (b)(2) of this section and each fixed roof, cover, and enclosure shall be inspected according to the procedures and schedule specified in paragraph (b)(3) of this section.

(1) If the vapor collection system or closed vent system is constructed of hard-piping, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (c) of this section; and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of duct work, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (c) of this section, and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed vent system is constructed of duct work, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (c) of this section; and

(ii) Conduct annual inspections according to the procedures in paragraph (c) of this section.

(iii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(3) For each fixed roof, cover, and enclosure, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (c) of this section; and

(ii) Conduct semi-annual visual inspections for visible, audible, or olfactory indications of leaks.

(c) Each vapor collection system, closed vent system, fixed roof, cover, and enclosure shall be inspected according to the procedures specified in paragraphs (c)(1) through (c)(6) of this section.

(1) Inspections shall be conducted in accordance with Method 21, 40 CFR part 60, appendix A, and with the exceptions and modifications specified in this subpart.

(2) The detection instrument shall meet the performance criteria of Method 21, 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 process fluid not each individual VOC in the stream.

(i) Except as provided in paragraph (c)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21, 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 process fluid not each individual VOC in the stream. For process streams that contain nitrogen, air, or other inerts which are not organic hazardous air pollutants or VOCs, the average stream response factor shall be calculated on an inert-free basis.

(ii) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (c)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (c)(2)(i) of this section.

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

(4) Calibration gases shall be as follows:

(i) Zero air (less than 10 parts per million hydrocarbon in air); and

(ii) Mixtures of methane in air at a concentration less than 10,000 parts per million. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in

paragraph (c)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in the air.

(5) An owner or operator may elect to adjust or not adjust instrument readings for background. If an owner or operator elects to not adjust readings for background, all such instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall measure background concentration using the procedures in 40 CFR 63.180(b) and (c). The owner or operator shall subtract background reading from the maximum concentration indicated by the instrument.

(6) The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared with 500 parts per million for determining compliance.

(d) Leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practical, except as provided in paragraph (e) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected.

(e) Delay of repair of a vapor collection system, closed vent system, fixed roof, cover, or enclosure for which leaks have been detected is allowed if the repair is technically infeasible without a shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next shutdown.

(f) For each vapor collection system or closed vent system that contains bypass lines that could divert emissions away from a control device, the owner or operator shall comply with the provisions of either paragraph (f)(1) or (f)(2) of this section. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph (f).

(1) Properly install, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in § 60.785(f)(10) of this subpart. The flow indicator shall be installed at the entrance to any bypass line that could divert emissions away from the control device and to the atmosphere; or

(2) Secure the bypass line damper or valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the damper or valve is maintained in the non-diverting position and emissions are not diverted through the bypass line. Records shall be generated as specified in § 60.785(e)(11) of this subpart.

(g) Any parts of the vapor collection system, closed vent system, fixed roof, cover, or enclosure that are designated, as described in paragraph (i)(1) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (b)(1), (b)(2), and (b)(3)(i) of this section if:

(1) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (b)(1), (b)(2), or (b)(3)(i) of this section; and

(2) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(h) Any parts of the vapor collection system, closed vent system, fixed roof, cover, or enclosure that are designated, as described in paragraph (i)(2) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (b)(1), (b)(2), and (b)(3)(i) of this section if:

(1) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(i) The owner or operator shall record the information specified in paragraphs (i)(1) through (i)(5) of this section.

(1) Identification of all parts of the vapor collection system, closed vent system, fixed roof, cover, or enclosure that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

(2) Identification of all parts of the vapor collection system, closed vent system, fixed roof, cover, or enclosure that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

(3) For each vapor collection system or closed vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall keep a record of the information specified in either paragraph (i)(3)(i) or (i)(3)(ii) of this section.

(i) Hourly records of whether the flow indicator specified under paragraph (f)(1) of this section was operating and whether a diversion was detected at any time during the hour, as well as records of the times of all periods when the vent stream is diverted from the control device or the monitor is not operating.

(ii) Where a seal mechanism is used to comply with paragraph (f)(2) of this section, hourly records of flow are not required. In such cases, the owner or operator shall record whether the monthly visual inspection of the seals or closure mechanisms has been done, and shall record the occurrence of all periods when the seal mechanism is broken, the bypass line valve position has changed, or the key for a lock-and-key type configuration has been checked out, and records of any car-seal that has broken.

(4) For each inspection during which a leak is detected, a record of the information specified in paragraphs (i)(4)(i) through (i)(4)(viii) of this section.

(i) The instrument identification numbers; the name or initials of the person conducting the inspection; and identification of the equipment.

(ii) The date the leak was detected and the date of the first attempt to repair the leak.

(iii) Maximum instrument reading measured by the method specified in paragraph (d) of this section after the leak is successfully repaired or determined to be nonrepairable.

(iv) ''Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(v) The name, initials, or other form of identification of the owner or operator (or designee) whose decision it was that repair could not be effected without a shutdown.

(vi) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(vii) Dates of shutdowns that occur while the equipment is unrepaired.

(viii) The date of successful repair of the leak.

(5) For each inspection conducted in accordance with paragraph (c) of this section during which no leaks are detected, a record that the inspection was performed, the date of the

inspection, and a statement that no leaks were detected.

(6) For each visual inspection conducted in accordance with paragraph (b)(1)(ii) or (b)(3)(ii) of this section during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

§ 60.787 Additional Requirements—Start-up, Shutdown, Malfunction, or Nonoperation; Alternative Means of Emission Limitation; and Permits

(a) *Applicability of this subpart during periods of start-up, shutdown, malfunction, or non-operation.* Paragraphs (a)(1) through (a)(4) of this section shall be followed during periods of start-up, shutdown, malfunction, or non-operation of the affected facility or any part thereof.

(1) The emission limitations set forth in this subpart and the emission limitations referred to in this subpart shall apply at all times except during periods of non-operation of the affected facility (or specific portion thereof) resulting in cessation of the emissions to which this subpart applies. The emission limitations of this subpart and the emission limitations referred to in this subpart shall not apply during periods of start-up, shutdown, or malfunction. During periods of start-up, shutdown, or malfunction, the owner or operator shall follow the applicable provisions of the start-up, shutdown, and malfunction plan as specified in 40 CFR 63.6(e)(3) and table 2A of this subpart. However, if a start-up, shutdown, malfunction, or period of non-operation of one portion of an affected facility does not affect the ability of a particular emission point to comply with the emission limitations to which it is subject, then that emission point shall still be required to comply with the applicable provisions of this subpart during the start-up, shutdown, malfunction, or period of non-operation.

(2) The owner or operator shall not shut down items of equipment that are required or utilized for compliance with this subpart during periods of start-up, shutdown, or malfunction during times when emissions, wastewater streams, or residuals are being routed to such items of equipment, if the shutdown would contravene requirements of this subpart applicable to such items of equipment. This paragraph (a)(2) does not apply if the item of equipment is malfunctioning. This paragraph (a)(2) also does not apply if the owner or operator shuts down the compliance equipment (other than monitoring systems) to avoid damage due to a contemporaneous start-up, shutdown, or malfunction of the affected facility or portion thereof. If the owner or operator has reason to believe that monitoring equipment would be damaged due to a contemporaneous start-up, shutdown, or malfunction of the affected facility or portion thereof, the owner or operator shall provide documentation to the Administrator, as soon as possible, supporting such a claim. Once approved by the Administrator, the provision for ceasing to collect, during a start-up, shutdown, or malfunction, monitoring data that would otherwise be required by the provisions of this subpart must be incorporated into the start-up, shutdown, malfunction plan for that affected facility.

(3) During start-ups, shutdowns, and malfunctions when the emission limitations of this subpart do not apply pursuant to paragraphs (a)(1) and (a)(2) of this section, the owner or operator shall implement, to the extent reasonably available, measures to prevent or minimize excess emissions. For purposes of this paragraph (a)(3), the term ''excess emissions'' means emissions in excess of those that would have occurred if there were no start-up, shutdown, or malfunction and the owner or operator complied with the relevant provisions of this subpart. The measures to be taken shall be identified in the applicable start-up, shutdown, and malfunction plan, and may include, but are not limited to, air pollution control technologies, recovery technologies, work practices, pollution prevention, monitoring, and/or changes in the manner of operation of the affected facility. Back-up control devices are not required, but may be used if available.

(b) *Start-up, shutdown, and malfunction plan.* The owner or operator of an affected facility shall develop and implement a written start-up, shutdown, and malfunction plan as specified in 40 CFR 63.6(e)(3) and table 2A of this subpart. This plan shall describe, in detail, procedures for operating and maintaining the affected facility during periods of start-up, shutdown, and malfunction and a program for corrective action for malfunctioning process and air pollution control equipment used to comply with this subpart. A provision for ceasing to collect, during a start-up, shutdown, or malfunction, monitoring data that would otherwise be required by the provisions of this subpart may be included in the start-up, shutdown, and malfunction plan only if the owner or operator has demonstrated to the Administrator that the monitoring system would be damaged or destroyed if it were not shut down during the start-up, shutdown, or malfunction. The affected facility shall keep the start-up, shutdown, and malfunction plan on-site.

(1) *Records of start-up, shutdown, and malfunction.* The owner or operator shall keep the records specified in paragraphs (b)(1)(i) and (b)(1)(ii) of this section.

(i) Records of the occurrence and duration of each start-up, shutdown, and malfunction of operation of process equipment or control devices or recovery devices or continuous monitoring systems used to comply with this subpart during which excess emissions (as defined in paragraph (a)(3) of this section) occur.

(ii) For each start-up, shutdown, or malfunction during which excess emissions (as defined in paragraph (a)(3) of this section) occur, records reflecting whether the procedures specified in the affected facility's start-up, shutdown, and malfunction plan were followed, and documentation of actions taken that are not consistent with the plan. For example, if a start-up, shutdown, and malfunction plan includes procedures for routing a control device to a backup control device, records shall be kept of whether the plan was followed. These records may take the form of a ''checklist,'' or other form of recordkeeping that confirms conformance with the start-up shutdown, and malfunction plan for the event.

(2) *Reports of start-up, shutdown, and malfunction.* For the purposes of this subpart, the start-up, shutdown, and malfunction reports shall be submitted on the same schedule as the semiannual reports required under § 60.784(d) of this subpart. Said reports shall include the information specified in paragraphs (b)(1)(i) and (b)(1)(ii)of this section and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy.

(b) *Alternative means of emission limitation.* If, in the judgment of the Administrator, an alternative means of emission limitation will achieve a reduction in VOC emissions at least equivalent to the reduction in VOC achieved under any design, equipment, work practice, or operational standards in this subpart, the Administrator will publish a notice permitting the use of the alternative means for purposes of compliance with that requirement.

(1) The notice may condition the permission on requirements related to the operation and maintenance of the alternative means.

(2) Any notice under paragraph (b) of this section shall be published only after public notice and an opportunity for a hearing.

(3) Any person seeking permission to use an alternative means of compliance under this section shall collect, verify, and submit to the Administrator information showing that the alternative means achieves equivalent emission reductions.

(c) *Permit.* Each owner or operator of an affected facility subject to this subpart shall obtain a permit under 40 CFR part 70 or part 71 from the appropriate permitting authority. If EPA has approved a State operating permit program under 40 CFR part 71, the permit shall be obtained from the State authority. If the State operating permit program has not been approved, the owner or operator shall apply to the EPA regional office pursuant to 40 CFR part 70.

§ 60.788 [Reserved]

§ 60.789 Relationship to other regulations.

(a) The owner or operator who is subject to the provisions of this section shall include in the Notification of Compliance Status a statement specifying the options being used to comply with the provisions of this section.

(b) *Relationship to benzene waste.* After the compliance dates specified in § 60.770 of this subpart, the owner or operator of a Group 1 or Group 2 wastewater stream that is also subject to the provisions of 40 CFR part 61, subpart FF is required to comply with the provisions of both this subpart and 40 CFR part 61, subpart FF. Alternatively, the owner or operator may elect to comply with the provisions of paragraphs (b)(1) and (b)(2) of this section, which shall constitute compliance with the provisions of 40 CFR part 61, subpart FF.

(1) Comply with the provisions of this subpart; and

(2) For any Group 2 wastewater stream or organic stream whose benzene emissions are subject to control through the use of one or more treatment processes or waste management units under the provisions of 40 CFR part 61, subpart FF on or after September 12, 1994, comply with the requirements of this subpart for Group 1 wastewater streams.

(c) *Relationship to RCRA.* After the compliance dates specified in § 60.770 of this subpart, the owner or operator of any Group 1 or Group 2 wastewater stream that is also subject to provisions in 40 CFR parts 260 and 272 shall comply with the requirements of either paragraph (c)(1) or (c)(2) of this section.

(1) For each Group 1 or Group 2 wastewater stream, the owner or operator shall comply with the more stringent control requirements (e.g., waste management units, numerical treatment standards, etc.) and the more stringent testing, monitoring, recordkeeping, and reporting requirements that overlap between the provisions of this subpart and the provisions of 40 CFR parts 260 through 272. The owner or operator shall keep a record of the information used to determine which requirements were the most stringent and shall submit this information if requested by the Administrator; or

(2) The owner or operator shall submit, no later than four months before the applicable compliance date specified in § 60.770 of this subpart, a request for a case-by-case determination of requirements. The request shall include the information specified in paragraphs (c)(2)(i) and (c)(2)(ii) of this section.

(i) Identification of the wastewater streams that are subject to this subpart and to the provisions in 40 CFR parts 260 through 272, determination of the Group 1/Group 2 status of those streams using the provisions specified in this subpart, determination of whether or not those streams are listed or exhibit a characteristic as specified in 40 CFR part 261, and determination of whether the waste management unit is subject to permitting under 40 CFR part 270.

(ii) Identification of the specific control requirements (e.g., waste management units, numerical treatment standards, etc.) and testing, monitoring, recordkeeping, and reporting requirements that overlap between the provisions of this subpart and the provisions of 40 CFR parts 260 through 272.

(d) *Overlap with the Vinyl Chloride NESHAP.* After the compliance dates specified in § 60.770 of this subpart, the owner or operator of a Group 1 and Group 2 wastewater stream that is also subject to the provisions of 40 CFR part 61 subpart F shall comply with the provisions of either paragraph (d)(1) or (d)(2) of this section.

(1) The owner or operator shall comply with the provisions of both this subpart and 40 CFR part 61 subpart F or

(2) The owner or operator may submit, no later than four months before the applicable compliance date specified in § 60.770 of this subpart, information demonstrating how compliance with 40 CFR Part 61, subpart F, will also ensure compliance with this subpart. The information shall include a description of the testing, monitoring, reporting, and recordkeeping that will be performed.

(e) *Overlap with the HON.* After the compliance dates specified in § 60.770 of this subpart, the owner or operator of any Group 1 or Group 2 process wastewater stream that is also subject to and controlled according to the provisions in 40 CFR, subpart G shall comply with either 40 CFR, subpart G or this subpart.

(f) *Overlap with other regulations for monitoring, recordkeeping, or reporting with respect to combustion devices, recovery devices, or recapture devices.* After compliance dates specified in § 60.770 of this subpart, if any combustion device, recovery device, or recapture device subject to this subpart is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart AA or CC, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart AA or CC and other owner or operator complies with the periodic reporting requirements under 40 CFR part 264, subpart AA or CC that would apply to the device if the facility had final-permitted status, the owner or operator may elect to comply with the monitoring, recordkeeping, and reporting requirements of this subpart, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this paragraph (f), which shall constitute compliance with the monitoring, recordkeeping, and reporting requirements of this subpart.

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS

Chemical name [a]	CAS No. [b]
(1,1,2-) Trichloro (1,2,2-) trifluoroethane	76131
(2-Ethylhexyl) amine	104756
1,4-Dichlorobutene	110576
1-Butene	106989

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS—Continued

Chemical name [a]	CAS No. [b]
1-Methyl-2-pyrrolidone	872504
1-Naphthyl-N-methylcarbamate	
1-Phenyl ethyl hydroperoxide	3071327
2-Butene	25167673
2-Butyne-1,4-diol	110656
2-Chloro-1,3-butadiene (Chloroprene)	126998
2-Chloro-4-(ethylamino)-6-(isopropylamino)-S-triazine	1912249
2-Ethylhexanol (2-ethyl-1-hexanol)	104767
2-Hexenedinitrile	13042029
3,4-Dichloro-1-butene	64037543
3-Hexenedinitrile	1119853
3-Pentenenitrile	4635874
6-Ethyl-1,2,3,4-tetrahydro-9,10-antracenedione	15547178
Acenaphthene	83329
Acetal (1,1-diethoxy-ethane)	105577
Acetaldehyde	75070
Acetaldol (3-hydroxy-butanal)	107891
Acetamide	60355
Acetanilide	103844
Acetic anhydride	108247
Acetic acid	64197
Acetoacetanilide	102012
Acetone cyanohydrin	75865
Acetone	67641
Acetonitrile	75058
Acetophenone	98862
Acetyl chloride	75365
Acetylene tetrabromide (1,1,2,2-tetrabromoethane)	79276
Acetylene	74862
Acrolein	107028
Acrylamide	79061
Acrylic acid	79107
Acrylonitrile	107131
Adipic acid	124049
Adiponitrile	111693
Alcohols, C–11 or higher, mixtures	
Alcohols, C–11 or lower, mixtures	
Alizarin	72480
Alkyl naphthalenes	
Alkyl naphthalene sulfonates	
Alkyl anthraquinones	
Allyl cyanide	109751
Allyl chloride	107051
Allyl bromide	106956
Allyl alcohol	107186
Aluminum acetate	7360443
Aluminum formates	
Aminobenzoic acid (p-)	1321115
Aminoethylethanolamine	111411
Aminophenol sulfonic acid	
Aminophenol (p-)	123308
Ammonium acetate	631618
Ammonium thiocyanate	1762954
Amyl acetates	628637
	123922
Amyl chloride (n-)	543599
Amyl phenol	1322061
Amyl chlorides (mixed)	
Amyl mercaptans	110667
Amyl alcohols (mixed)	30899195
Amyl alcohol (tert-)	75854
Amyl alcohol (n-) (1-pentanol)	71410
Amyl ether	693652
Amylamines	110587
Amylene	513359
Amylenes, mixed	
Aniline	62533
Aniline hydrochloride	142041
Anisidine (p-)	29191524
Anisidine (o-)	90040
Anisole (methoxy benzene)	100663
Anthracene	120127

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS—Continued

Chemical name [a]	CAS No. [b]
Anthranilic acid	118923
Anthraquinone	84651
ar-Methylbenzenediamine	25376458
Azobenzene	103333
Barium acetate	543806
Benzaldehyde	100527
Benzamide	55210
Benzene	71432
Benzenedisulfonic acid	98486
Benzenesulfonic acid	98113
Benzenesulfonic acid C_{10-16}-alkyl derivatives, sodium salts	68081812
Benzidine	
Benzil	134816
Benzilic acid	76937
Benzoguanamine	
Benzoic acid	65850
Benzoin	119539
Benzonitrile	100470
Benzophenone	119619
Benzotrichloride	98077
Benzoyl chloride	98884
Benzoyl peroxide	94360
Benzyl acetate	140114
Benzyl chloride	100447
Benzyl alcohol	100516
Benzyl dichloride	98873
Benzyl benzoate	120514
Benzylamine	100469
Benzylideneacetone	1896624
Biphenyl	92524
Bis(Chloromethyl)Ether	542881
Bisphenol A	80057
Brometone	
Bromobenzene	108861
Bromoform	75252
Bromonaphthalene	27497514
Butadiene and butene fractions	
Butadiene (1,3-)	106990
Butane	106978
Butanediol (1,4-)	110634
Butanes, mixed	
Butenes, mixed	
Butyl hydroperoxide (tert-)	75912
Butyl acetate (sec-)	105464
Butyl chloride (tert-)	507200
Butyl alcohol (tert-)	75650
Butyl benzoate	136607
Butyl mercaptan (n-)	109795
Butyl acrylate (n-)	141322
Butyl mercaptan (tert-)	75661
Butyl methacrylate (n-)	97881
Butyl alcohol (sec-)	78922
Butyl acetate (tert-)	540885
Butyl acetate (n-)	123864
Butyl methacrylate (tert-)	
Butyl toluene (tert-)	98511
Butyl phenol (tert-)	88186
Butyl alcohol (n-)	71363
Butylamine (t-)	75649
Butylamine (s-)	13952846
Butylamine (n-)	109739
Butylbenzene (tert-)	98066
Butylbenzoic acid (p-tert-)	98737
Butylbenzyl phthalate	85867
Butylene glycol (1,3-)	107880
Butylenes (n-)	
Butyraldehyde (n-)	123728
Butyric acid (n-)	107926
Butyric anhydride (n-)	106310
Butyrolacetone	96480
Butyronitrile	109740
Calcium acetate	62544

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS—Continued

Chemical name [a]	CAS No. [b]
Calcium propionate	4075814
Caproic acid	142621
Caprolactam	105602
Carbaryl	63252
Carbazole	86748
Carbon tetrabromide	558134
Carbon disulfide	75150
Carbon tetrachloride	56235
Carbon tetrafluoride	75730
Cellulose acetate	9004357
Chloral	75876
Chloranil (o-chloranil)	2435532
Chloranil (p-chloranil)	118752
Chloroacetic acid	79118
Chloroacetophenone (2-)	532274
Chloroaniline (o-)	95512
Chloroaniline (p-)	106478
Chloroaniline (m-)	108429
Chlorobenzaldehyde (4-)	104881
Chlorobenzaldehyde (2-)	89985
Chlorobenzaldehyde (3-)	587042
Chlorobenzene	108907
Chlorobenzoic acid	118912
	535808
	74113
Chlorobenzotrichloride (p-)	5216251
Chlorobenzotrichloride (o-)	2136892
Chlorobenzoyl chloride (p-)	122010
Chlorobenzoyl chloride (o-)	609654
Chlorodifluoroethane	25497294
Chlorodifluoromethane	75456
Chlorofluorocarbons	
Chloroform	67663
Chlorohydrin	
Chloronaphthalene	25586430
Chloronitrobenzene (o-)	88733
Chloronitrobenzene (m-)	121733
Chloronitrobenzene (p-)	100005
Chlorophenol (o-)	95578
Chlorophenol (m-)	108430
Chlorophenol (p-)	106489
Chlorosulfonic acid	7790945
Chlorotoluene (m-)	108418
Chlorotoluene (o-)	95498
Chlorotoluene (p-)	106434
Chlorotrifluoroethylene	79389
Chlorotrifluoromethane	75729
Choline chloride	67481
Chrysene	218019
Cinnamic acid	140103
Citric acid	77929
Cobalt acetate	
Copper acetate	142712
Cresol and cresylic acid (o-)	95487
Cresol and cresylic acid (p-)	106445
Cresol and cresylic acid (m-)	108394
Cresols and cresylic acids (mixed)	1319773
Crotonaldehyde	4170300
Crotonic acid	3724650
Cumene hydroperoxide	80159
Cumene	98828
Cyanamide	420042
Cyanoacetic acid	372098
Cyanoformamide	
Cyanogen chloride	506774
Cyanuric acid	108805
Cyanuric chloride	108770
Cyclohexane, oxidized	68512152
Cyclohexane	110827
Cyclohexanol	108930
Cyclohexanone oxime	100641
Cyclohexanone	108941

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS—Continued

Chemical name [a]	CAS No. [b]
Cyclohexene	110838
Cyclohexylamine	108918
Cyclooctadiene	29965977
Cyclooctadiene (1,3-)	3806595
Cyclooctadiene (1,5-)	111784
Cyclopentadiene (1,3-)	
Cyclopropane	75194
Decahydronaphthalene	91178
Decanol	112301
Decyl alcohol (1-decanol)	112301
Di-o-tolyguanidine	97392
Di(2-methoxyethyl) phthalate	
Di-n-heptyl-n-nonyl undecyl phthalate	
Diacetone alcohol	123422
Diacetoxy-2-Butene (1,4-)	
Diallyl phthalate	131179
Diallyl isophthalate	
Diaminobenzoic acids	27576041
Diaminophenol hydrochloride	137097
Dibromomethane	74953
Dibutanized aromatic concentrate	
Dibutoxyethyl phthalate	
Dichloro-1-butene (3,4-)	760236
Dichloro-2-butene (1,4-)	764410
Dichloro-2-butenes	
Dichloroaniline (mixed isomers)	27134276
Dichlorobenzene (p-)	106467
Dichlorobenzene (m-)	541731
Dichlorobenzene (o-)	95501
Dichlorobenzidine (3,3′-)	91941
Dichlorodifluoromethane	75718
Dichlorodimethylsilane	75785
Dichloroethane (1,2-) (Ethylene dichloride) (EDC)	107062
Dichloroethyl ether (bis(2-chloroethyl)ether)	111444
Dichloroethylene (1,2-)	540590
Dichlorofluoromethane	75434
Dichlorohydrin (a-)	96231
Dichloromethyl ether	
Dichloronitrobenzenes	
Dichloropentanes	
Dichlorophenol (2,4-)	120832
Dichloropropane (1,1-)	78999
Dichloropropene (1,3-)	542756
Dichloropropene/dichloropropane (mixed)	
Dichlorotetrafluoroethane	1320372
Dicyandiamide	461585
Dicyclohexylamine	101837
Dicyclopentadiene	77736
Diethanolamine (2,2′-Iminodiethanol)	111422
Diethyl phthalate	84662
Diethyl sulfate	64675
Diethylamine	109897
Diethylaniline (N,N-)	91667
Diethylaniline (2,6-)	579668
Diethylbenzene	25340174
Diethylene glycol monoethyl ether	111900
Diethylene glycol dimethyl ether	111966
Diethylene glycol	111466
Diethylene glycol monobutyl ether acetate	124174
Diethylene glycol monomethyl ether	111773
Diethylene glycol diethyl ether	112367
Diethylene glycol monomethyl ether acetate	629389
Diethylene glycol monoethyl ether acetate	112152
Diethylene glycol monohexyl ether	112594
Diethylene glycol monobutyl ether	112345
Diethylene glycol dibutyl ether	112732
Difluoroethane (1,1-)	75376
Dihydroxybenzoic acid (Resorcylic acid)	27138574
Diisobutylene	25167708
Diisodecyl phthalate	26761400
Diisononyl phthalate	28553120
Diisooctyl phthalate	27554263

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS—Continued

Chemical name [a]	CAS No. [b]
Diisopropylamine	108189
Diketene (4-methylene-2-oxetanone)	674828
Dimethyl sulfate	77781
Dimethyl ether	115106
Dimethyl sulfide	75183
Dimethyl phthalate	131113
Dimethyl sulfoxide	67685
Dimethyl terephthalate	120616
Dimethylacetamide (N,N-)	127195
Dimethylamine	124403
Dimethylaminoethanol (2-)	108010
Dimethylaniline (N,N)	121697
Dimethylbenzidine (3,3′-)	119937
Dimethylformamide (N,N-)	68122
Dimethylhydrazine (1,1-)	57147
Dimethylphenol (2,5-) Xylenol (2, 5-)	95874
Dimethylphenol (2,6-) Xylenol (2, 6-)	576261
Dimethylphenol (3,5-) Xylenol (3, 5-)	108689
Dimethylphenol (2,4-) Xylenol (2, 4-)	105679
Dimethylphenol (2,3-) Xylenol (2, 3-)	526750
Dimethylphenol (3,4-) Xylenol (3, 4-)	95658
Dinitrobenzenes (NOS) [c]	25154545
Dinitrobenzoic acid (3,5-)	99343
Dinitrophenol (2,4-)	51285
Dinitrotoluene (3,4-)	610399
Dinitrotoluene (2,6-)	606202
Dinitrotoluene (2,3-)	602017
Dinitrotoluene (2,4-)	121142
Dioctyl phthalate	117817
Dioxane (1,4-) (1,4-Diethyleneoxide)	123911
Dioxolane (1,3-)	646060
Diphenyl oxide	101848
Diphenyl thiourea (N,N′-)	102089
Diphenyl methane	101815
Diphenylamine	122394
Dipropylene glycol	110985
Dodecandedioic acid	693232
Dodecene (branched)	112414
Dodecene (n-)	25378227
Dodecyl phenol (branched)	121158585
Dodecyl benzene (branched)	123013
Dodecylaniline	28675174
Dodecylbenzene sulfonic acid	27176870
Dodecylbenzene, nonlinear	
Dodecylbenzene (n-)	121013
Dodecylbenzene sulfonic acid, sodium salt	25155300
Dodecylmercaptan (branched)	25103586
Dodecylphenol	27193868
Epichlorohydrin (1-chloro-2,3-epoxypropane)	106898
Ethane	74840
Ethanol	64175
Ethanolamine	141435
Ethyl ether	60297
Ethyl oxalate	95921
Ethyl orthoformate	122510
Ethyl acetate	141786
Ethyl bromide	74964
Ethyl chloride (Chloroethane)	75003
Ethyl cyanide	107120
Ethyl acrylate	140885
Ethyl sodium oxalacetate	41892711
Ethyl acetoacetate	141979
Ethyl chloroacetate	105395
Ethyl mercaptan (ethanethiol)	75081
Ethylamine	75047
Ethylaniline (o-)	578541
Ethylaniline (n-)	103695
Ethylbenzene	100414
Ethylcellulose	9004573
Ethylcyanoacetate	105566
Ethylene glycol dibutyl ether	112481
Ethylene dibromide (Dibromoethane)	106934

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS—Continued

Chemical name [a]	CAS No. [b]
Ethylene oxide	75218
Ethylene glycol monoethyl ether	110805
Ethylene glycol monoethyl ether acetate	111159
Ethylene glycol monomethyl ether	109864
Ethylene dichloride	107062
Ethylene glycol monobutyl ether acetate	112072
Ethylene glycol dimethyl ether	110714
Ethylene	74851
Ethylene glycol monophenyl ether	122996
Ethylene glycol monoacetate	542596
Ethylene carbonate	96491
Ethylene glycol monooctyl ether	
Ethylene glycol diacetate	111557
Ethylene glycol diethyl ether (1,2-diethoxyethane)	629141
Ethylene glycol monopropyl ether	2807309
Ethylene glycol monohexyl ether	112254
Ethylene glycol monomethyl ether acetate	110496
Ethylene glycol monobutyl ether	111762
Ethylene chlorohydrin	107073
Ethylene glycol	107211
Ethylenediamine	107153
Ethylenediamine tetraacetic acid	60004
Ethylenimine (Aziridine)	151564
Ethylhexanoic acid (2-)	149575
Ethylhexyl succinate (2-)	
Ethylhexyl acrylate (2-isomer)	103117
Ethylmethylbenzene	25550145
Fluoranthene	206440
Formaldehyde	50000
Formamide	75127
Formic acid	64186
Fumaric acid	110178
Furfural (2-furan carboxaldehyde)	98011
Glutaraldehyde	111308
Glyceraldehyde	367475
Glycerol dichlorohydrin	26545737
Glycerol tri(polyoxypropylene)ether	25791962
Glycerol	56815
Glycidol	556525
Glycine	56406
Glycol ethers	
Glyoxal (ethane dial)	107222
Guanidine	
Guanidine nitrate	506934
Heptenes	
Hexachlorobenzene	118741
Hexachlorobutadiene	87683
Hexachlorocyclopentadiene	77474
Hexachloroethane	67721
Hexadecyl chloride	
Hexadecyl alcohol (1-hexadecanol)	36653824
Hexadiene (1,4-)	592450
Hexamethylene glycol	629118
Hexamethylene diamine adipate	3323533
Hexamethylenediamine	124094
Hexamethylenetetramine	100970
Hexane	110543
Hexanetriol (1,2,6-)	106694
Hexyl alcohol	111273
Hexylene glycol	107415
Higher glycols	
Hydrogen cyanide	74908
Hydroquinone	123319
Hydroxyadipaldehyde	141311
Hydroxybenzoic acid (p-)	99967
Iminodiethanol (2,2-) (diethanolamine)	111422
Isoamyl alcohol	123513
Isoamyl chloride (mixed)	
Isoamylene	26760645
Isobutane	75285
Isobutanol	78831
Isobutyl methacrylate	97869

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS—Continued

Chemical name [a]	CAS No. [b]
Isobutyl acetate	110190
Isobutyl acrylate	106638
Isobutyl vinyl ether	109535
Isobutyl alcohol	78831
Isobutylene	115117
Isobutyraldehyde (2-methyl-propanal)	78842
Isobutyric acid	79312
Isodecanol	25339177
Isohexyldecyl alcohol	
Isononyl alcohol	
Isooctyl alcohol	26952216
Isopentane	78784
Isophorone nitrile	
Isophorone	78591
Isophthalic acid	121915
Isoprene	78795
Isopropanol	67630
Isopropyl acetate	108214
Isopropyl ether	108203
Isopropyl chloride	75296
Isopropylamine	75310
Isopropylphenol	25168063
Ketene	463514
Lactic acid	79334
Lauryl dimethylamine oxide	
Lead subacetate	1335326
Lead phthalate	
Lead acetate	6080564
Linear alcohols, ethoxylated and sulfated, sodium salt, mixed	
Linear alcohols, ethoxylated, mixed	
Linear alkyl sulfonate	
Linear alcohols, sulfated, sodium salt, mixed	
Magnesium acetate	142723
Maleic anhydride	108316
Maleic hydrazide	123331
Maleic acid	110167
Malic acid	6915157
Manganese acetate	638380
Melamine (1,3,5-triazine-2,4,6-triamine)	108781
Mercuric acetate	1600277
Mesityl oxide	141797
Metanilic acid	121471
Methacrylic acid	79414
Methacrylonitrile	126987
Methallyl chloride	563473
Methallyl alcohol	513428
Methane	74828
Methanol	67561
Methionine	63683
Methyl mercaptan	74931
Methyl iodide	74884
Methyl ethyl ketone (2-butanone)	78933
Methyl isobutyl carbinol	108112
Methyl acetate	79209
Methyl chloride (Chloromethane)	74873
Methyl salicylate	119368
Methyl acetoacetate	105453
Methyl bromide (Bromomethane)	74839
Methyl formate	107313
Methyl phenyl carbinol	98851
Methyl methacrylate	80626
Methyl tert-butyl ether	1634044
Methyl isocyanate	624839
Methyl butynol	37365712
Methyl hydrazine	60344
Methyl isobutyl ketone (Hexone)	108101
Methyl acrylate	96333
Methyl butenols	
Methyl anthranilate	134203
Methylamine	74895
Methylaniline (N-)	100618
Methylbutanol (2-)	137326

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS—Continued

Chemical name [a]	CAS No. [b]
Methylcyclohexane	108872
Methylcyclohexanol	25639423
Methylcyclohexanone	1331222
Methylene chloride (Dichloromethane)	75092
Methylene dianiline (4,4′)	101779
Methylene diphenyl diisocyanate (4,4′-) (MDI)	101688
Methylionones (a-)	79696
Methylnaphthalene (2-)	91576
Methylnaphthalene (1-)	90120
Methylpentane (2-)	107835
Methylpentynol	77758
Methylstyrene (a-)	98839
Monomethylhydrazine	
Morpholine	110918
n-Heptane	142825
n-Propanol	71238
N-Vinyl-2-pyrrolidine	
Naphthalene sulfonic acid (a-)	85472
Naphthalene	91203
Naphthalene sulfonic acid (b-)	120183
Naphthenic acids	
Naphthol (a-)	90153
Naphthol (b-)	135193
Naphtholsulfonic acid (1-)	567180
Naphthylamine sulfonic acid (1,4-)	84866
Naphthylamine (1-)	134327
Naphthylamine (2-)	91598
Naphthylamine sulfonic acid (2,1-)	81163
Neohexane	75832
Neopentanoic acid	75989
Neopentyl glycol	126307
Nickel formate	
Nitriloacetic acid	
Nitrilotriacetic acid	139139
Nitroaniline (m-)	99092
Nitroaniline (p-)	100016
Nitroaniline (o-)	88744
Nitroanisole (p-)	100174
Nitroanisole (o-)	91236
Nitrobenzene	98953
Nitrobenzoic acid (m-)	121926
Nitrobenzoic acid (o-)	552169
Nitrobenzoic acid (p-)	62237
Nitrobenzoyl chloride (p-)	
Nitroethane	79243
Nitroguanidine	556887
Nitromethane	75525
Nitronaphthalene (1-)	86577
Nitrophenol (p-)	100027
Nitrophenol (o-)	88755
Nitropropane (1-)	25322014
Nitropropane (2-)	79469
Nitrotoluene (p-)	99990
Nitrotoluene (o-)	88722
Nitrotoluene (m-)	99081
Nitrotoluene (all isomers)	1321126
Nitroxylene	25168041
Nonene	27215958
Nonyl alcohol	1430808
Nonylbenzene (branched)	1081772
Nonylphenol	25154523
Nonylphenol, ethoxylated	9016459
Nonylphenol (branched)	25154523
Octane	111659
Octene-1	111660
Octylamine (tert-)	107459
Octylphenol	27193288
Oil-soluble petroleum sulfonate sodium salt	
Oil-soluble petroleum sulfonate calcium salt	
Oxalic acid	144627
Oxamide	471465
Oxo chemicals	

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS—Continued

Chemical name [a]	CAS No. [b]
p-tert-Butyl toluene	98511
Paraformaldehyde	30525894
Paraldehyde	123637
Pentachlorophenol	87865
Pentaerythritol tetranitrate	
Pentane	109660
Pentanethiol	115775
Pentanol (3-)	584021
Pentanol (2-)	6032297
Pentene (1-)	109671
Pentene (2-)	109682
Peracetic acid	79210
Perchloromethyl mercaptan	594423
Phenacetin	62442
Phenanthrene	85018
Phenetidine (p-)	156434
Phenetidine (o-)	94702
Phenol	108952
Phenolphthalein	77098
Phenolsulfonic acids (all isomers)	1333397
Phenyl anthranilic acid (all isomers)	91407
Phenylenediamine (m-)	108452
Phenylenediamine (p-)	106503
Phenylenediamine (o-)	95545
Phenylmethylpyrazolone	
Phenylpropane	103651
Phloroglucinol (1,3,5-benzenetriol)	108736
Phosgene	75445
Phthalic acid	88993
Phthalic anhydride	85449
Phthalimide	85416
Phthalonitrile	91156
Picoline (b-)	108996
Picoline (a-)	
Picramic acid	
Picric acid	88891
Piperazine	110850
Piperidine	110894
Piperylene	504609
Polybutenes	9003296
Polyethylene glycol	25322683
Polypropylene glycol	25322694
Potassium acetate	127082
Propane	74986
Propiolactone (beta-) (2-Oxetanone)	57578
Propionaldehyde	123386
Propionic acid	79094
Propyl acetate (n-)	109604
Propyl chloride	540545
Propyl alcohol (n-)	71238
Propylamine	107108
Propylene chlorohydrin	127004
Propylene glycol	57556
Propylene	115071
Propylene oxide	75569
Propylene carbonate	108327
Propylene glycol monomethyl ether	107982
1,2-dichloropropane	78875
Pseudocumene	95636
Pseudocumidine	
Pyrene	129000
Pyridine	110861
Pyrrolidone (2-)	616455
Quinone	106514
Resorcinol (1,3-benzenediol)	108463
Salicylic acid	69727
Sebacic acid	111206
Sodium benzoate	532321
Sodium phenate	139026
Sodium acetate	127093
Sodium formate	141537
Sodium methoxide	124414

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS—Continued

Chemical name [a]	CAS No. [b]
Sodium cyanide	143339
Sodium propionate	137406
Sodium chloroacetate	3926623
Sodium carboxymethyl cellulose	9004324
Sodium oxalate	62760
Sodium dodecyl benzene sulfonate	
Sorbic acid	110441
Sorbitol (D-Glucitol)	50704
Stilbene	588590
Styrene	100425
Succinic acid	110156
Succinonitrile	110612
Sulfanilic acid	121573
Sulfolane	126330
Synthesis gas	
Tannic acid	1401554
Tartaric acid	526830
Terephthalic acid	100210
Terephthaloyl chloride	100209
Tetra (methyl-ethyl) lead	
Tetrabromophthalic anhydride	632791
Tetrachlorobenzene (1,2,3,5-)	
Tetrachlorobenzene (1,2,4,5-)	95943
Tetrachloroethane (1,1,2,2-)	79345
Tetrachloroethylene (Perchloroethylene)	127184
Tetrachlorophthalic anhydride	117088
Tetraethyl lead	78002
Tetraethylene glycol	112607
Tetraethylenepentamine	112572
Tetrafluoroethylene	
Tetrahydrofuran	109999
Tetrahydronapthalene	119642
Tetrahydrophthalic anhydride	85438
Tetramethylenediamine	110601
Tetramethylethylenediamine	110189
Tetramethyllead	75741
Thiourea	62566
Tolidines	
Toluene sulfonic acids	104154
Toluene diisocyanate (2,4-)	584849
Toluene	108883
Toluene diamine (2,4-)	95807
Toluene diisocyanates (mixture)	26471625
Toluene sulfonamides (o- and p-)	1333079
Toluenesulfonyl chloride	98599
Toluidine (o-)	95534
Trichloroacetic acid	76039
Trichloroaniline (2,4,6-)	634935
Trichlorobenzene (1,2,4-)	120821
Trichlorobenzene (1,2,3-)	87616
Trichlorobenzene (1,3,5-)	108703
Trichloroethane (1,1,2-)	79005
Trichloroethane (1,1,1-)	71556
Trichloroethylene	79016
Trichlorofluoromethane	75694
Trichlorophenol (2,4,5-)	95954
Trichloropropane (1,2,3-)	96184
Tricresyl phosphate	1330785
Tridecyl alcohol	112709
Tridecyl mercaptan	
Triethanolamine	102716
Triethylamine	121448
Triethylene glycol monoethyl ether	112505
Triethylene glycol	112276
Triethylene glycol dimethyl ether	112492
Triethylene glycol monomethyl ether	112356
Triisobutylene	7756947
Trimellitic anhydride	552307
Trimethyl-1,3-pentanediol (2,2,4-)	144194
Trimethyl-1-pentanol (2,4,4-)	16325636
Trimethylamine	75503
Trimethylcyclohexanol	933482

TABLE 1 TO SUBPART YYY—LIST OF SOCMI CHEMICALS—Continued

Chemical name [a]	CAS No. [b]
Trimethylcyclohexanone	2408379
Trimethylcyclohexylamine	34216347
Trimethylolpropane	77996
Trimethylpentane (2,2,4-)	540841
Tripropylene glycol	24800440
Urea	57136
Vinyl chloride (Chloroethylene)	75014
Vinyl acetate	108054
Vinyl toluene	25013154
Vinyl (N-)-pyrrolidone (2-)	88120
Vinylcyclohexene (4-)	100403
Vinylidene chloride (1,1-dichloroethylene)	75354
Vinylpyridine (2-)	100696
Xanthates	140896
Xylene sulfonic acid	25321419
Xylene (m-)	108383
Xylene (o-)	95476
Xylene (p-)	106423
Xylenes (NOS)[c]	1330207
Xylenols (Mixed)	1300716
Xylidene (dimethylbenzene diamine)	1300738
Xylidene (2,3-)	1300738
Xylidene (2,6-)	1300738
Xylidene (2,5-)	1300738
Xylidene (3,5-)	1300738
Xylidene (2,4-)	1300738
Xylidene (3,4-)	1300738
Zinc acetate	5970456

[a] Isomer means all structural arrangements for the same number of atoms of each element and does not mean salts, esters, or derivatives.
[b] CAS Number = Chemical Abstract Service number.

TABLE 2 TO SUBPART YYY—APPLICABILITY OF 40 CFR PART 60 GENERAL PROVISIONS TO SUBPART YYY

Reference	Applies to subpart YYY	Subject/comment
60.1	Yes	Applicability.
60.2	Yes	Definitions. If a term is defined in both the General Provisions and subpart YYY, the definition in YYY shall override the definition in the General provisions.
60.3	Yes	Units and abbreviations.
60.4	Yes	Address.
60.5	Yes	Determination of construction or modification.
60.6	Yes	Review of plans.
60.7(a)(1)	Yes	Submit a notification of the date construction or reconstruction commences.
60.7(a)(2)	Yes	Submit a notification of anticipated date of initial startup.
60.7(a)(3)	Yes	Submit a notification of actual date of initial startup.
60.7(a)(4)	Yes	Submit a notification of any physical or operational change to an existing facility which increases the emission rate of any air pollutant.
60.7(a)(5)	No	Continuous monitoring requirements and associated reporting and recordkeeping are specified in §§ 60.781, 60.784, and 60.785 of subpart YYY.
60.7(a)(6)–160.7(a)(7)	No	Subpart YYY is not an opacity standard.
60.7(b)	No	§ 60.785(f)(7) of subpart YYY specify which records to maintain to document periods of startup, shutdown, or malfunction; and periods when a continuous monitoring system is inoperative.
60.7(c), (d), and (e)	No	The semiannual report required in § 60.784(d) includes reports of all excursions and all periods when monitoring parameters are above the maximum or below the minimum established value. § 60.784(e) specifies semiannual reporting for treatment processes. Excess emissions are discussed and defined in § 60.787(a)(3) and must be recorded in the startup, shutdown, and malfunction plan as specified in § 60.787.
60.7(f)	No	§ 60.785 specifies data retention and the types of records that must be maintained.
60.7(g)–(h)	Yes	
60.8	No	The performance testing requirements in 40 CFR 63.7 apply to subpart YYY as specified in Table 2A of this subpart.
60.9	Yes	Availability of information.
60.10	Yes	State authority.
60.11	No	Subpart YYY is not an opacity standard. Operation and maintenance requirements are specified throughout subpart YYY.
60.12	Yes	Circumvention.
60.13(a)	No	Continuous monitoring requirements are specified in § 60.781.
60.13(b)	Yes	Except use 40 CFR part 63.11 in place of the § 60.8 reference to performance tests.

TABLE 2 TO SUBPART YYY—APPLICABILITY OF 40 CFR PART 60 GENERAL PROVISIONS TO SUBPART YYY—Continued

Reference	Applies to subpart YYY	Subject/comment
60.13(c)–(d)	No	Opacity and continuous emission monitoring not required in subpart YYY.
60.13(e)	No	Monitoring frequency is specified in § 60.781.
60.13(f)	Yes	Except § 60.781(g), which pertains to installation, calibration, and maintenance of monitoring equipment, applies, also.
60.13(g)	No	The locations to install CMS are specified in § 60.781.
60.13(h)	No	Provisions explaining how to calculate continuous parameter monitoring values are specified in § 60.785.
60.13(i)(1)–(i)(7), (i)(9)	Yes	Alternatives to monitoring methods or procedures must be approved by the Administrator.
60.13(i)(8)	No	Opacity monitoring not required in subpart YYY.
60.13(j)	No	Continuous emission monitoring not required in subpart YYY.
60.14(a)	No	A modification is determined as specified in § 60.772(b).
60.14(b)	No	VOC emissions are determined as specified in § 60.772(f).
60.14(c)	No	
60.14(d)	No	Reserved.
60.14(e)	No	Types of physical and operational changes that are not modifications are specified in § 60.772(c).
60.14(f)–(g)	Yes	
60.14(h)–60.14(l)	Yes	List of changes and projects that are exempt from modification provisions.
60.15	Yes	Except 60.772(g) specifies additional requirements for ''fixed capital cost of the new components.''
60.16	Yes	Prioritized major source categories.
60.17	Yes	Incorporations by reference.
60.18	No	Control device requirements are specified in 40 CFR part 63.11, as specified in Table 2A of this subpart.
60.19	Yes	General notification and reporting requirements.

TABLE 2A TO SUBPART YYY—APPLICABILITY OF 40 CFR PART 63 GENERAL PROVISIONS TO SUBPART YYY

Reference	Applies to subpart YYY	Subject/comment
63.6(e)(3)(i)	Yes	The startup, shutdown, malfunction plan may include written procedures that identify conditions that justify a delay of repair.
63.6(e)(3)(i)(B)	Yes	
63.6(e)(3)(i)(C)	Yes	
63.6(e)(3)(ii)	Yes	
63.6(e)(3)(v)	Yes	
63.6(e)(3)(vi)	Yes	
63.6(e)(3)(vii)	Yes	
63.6(e)(3)(vii)(A)	Yes	
63.6(e)(3)(vii)(B)	Yes	Except the plan shall provide for operation in compliance with § 60.787(a)(3).
63.6(e)(3)(vii)(C)	Yes	
63.6(e)(3)(viii)	Yes	
63.7(a)(3)	Yes	
63.7(d)	Yes	
63.7(e)(1)–(e)(2)	Yes	Except § 60.783(a)(8), representative process unit operating conditions, and (a)(9), representative treatment process or control device operating conditions, also address this issue.
63.7(e)(4)	Yes	
63.7(h)(1)–(h)(2)	Yes	
63.7(h)(5)	Yes	
63.9(a)(4)	Yes	
63.9(b)(5)	Yes	
63.11	Yes	

TABLE 3 TO SUBPART YYY—CONTROL REQUIREMENT OPTIONS FOR WASTEWATER TANKS, SURFACE IMPOUNDMENT, CONTAINERS, INDIVIDUAL DRAIN SYSTEMS, AND OIL-WATER SEPARATORS

Unit operation	Part 63, subpart G (HON)	Part 63 (standard-standards)	Part 60, subpart QQQ (petroleum refinery)	Part 264, subpart CC (RCRA CC)	Part 265, subpart CC (RCRA CC)	Part 61, subpart FF (benzene waste)
Wastewater Tanks	§ 63.133			§ 264.1084	§ 265.1085	§ 61.343
Surface Impoundments	§ 63.134	§§ 63.942 and 63.943 of Subpart QQ.		§ 264.1085	§ 265.1086	§ 61.344

TABLE 3 TO SUBPART YYY—CONTROL REQUIREMENT OPTIONS FOR WASTEWATER TANKS, SURFACE IMPOUNDMENT, CONTAINERS, INDIVIDUAL DRAIN SYSTEMS, AND OIL-WATER SEPARATORS—Continued

Unit operation	Part 63, subpart G (HON)	Part 63 (standard-standards)	Part 60, subpart QQQ (petroleum refinery)	Part 264, subpart CC (RCRA CC)	Part 265, subpart CC (RCRA CC)	Part 61, subpart FF (benzene waste)
Containers	§ 63.135	§§ 63.922 and 63.923 of Subpart PP.		§ 264.1086	§ 265.1087	§ 61.345
Individual Drain System	§ 63.136	§ 63.962 of Subpart RR.	§ 60.693–1			§ 61.346
Oil-water separators	§ 63.137	§§ 63.1042, 63.1043, and 63.1044 of Subpart VV.				§ 61.347

TABLE 4 TO SUBPART YYY—WASTEWATER TANKS REQUIRING CONTROLS AND CONTROL REQUIREMENTS

Capacity (m^3)	Vapor pressure (kPa)	Control requirements
<75		FR, IFR, EFR, or CVS and CD.
≥75 and <151	<13.1	FR, IFR, EFR, or CVS and CD.
	≥13.1	IFR, EFR, or CVS and CD.
≥151	<5.2	FR, IFR, EFR, or CVS and CD.
	≥5.2	IFR, EFR, or CVS and CD.

FR means fixed roof requirements in the applicable compliance option.
IFR means internal floating roof requirements in the applicable compliance option.
EFR means external floating roof requirements in the applicable compliance option.
CVS and CD means closed vent system routed to a control device requirements in the applicable compliance option.

TABLE 5 TO SUBPART YYY—COMPLIANCE OPTIONS FOR WASTEWATER TANKS, SURFACE IMPOUNDMENTS, CONTAINERS, INDIVIDUAL DRAIN SYSTEMS, AND OIL-WATER SEPARATORS

Headings within § 60.774	Part 63, subpart G (HON)	Part 63 (standard-standards)	Part 60, subpart QQQ (petroleum refinery)	Part 264, subpart CC (RCRA CC)	Part 265, subpart CC (RCRA CC)	Part 61, subpart FF (benzene waste)
Control Requirements.	If WMU subject to YYY or HON, then comply with HON control requirements.	Comply with subpart QQ, PP, RR, or VV control requirements, as applicable.	If WMU subject to YYY or Petroleum Refinery for individual drain systems, then comply with Petroleum Refinery control requirements.	If WMU subject to YYY and RCRA, part 264, then comply with RCRA, part 264 control requirements.	If WMU subject to YYY and RCRA, part 265, then comply with RCRA, part 265 control requirements.	If WMU subject to YYY and Benzene Waste, then comply with Benzene Waste control requirements.
Monitoring	If WMU subject to HON, can comply with either HON or YYY provisions; if WMU not subject to HON, comply with YYY provisions.	Comply with std-stds provisions or YYY provisions.	If WMU subject to Petroleum Refinery, then can comply with either Petroleum Refinery or YYY provisions; if WMU not subject to Petroleum Refinery, comply with YYY provisions.	If WMU subject to part RCRA, part 264, then can comply with either RCRA, part 264 or YYY provisions; if WMU not subject to RCRA, part 264, comply with YYY provisions.	If WMU subject to RCRA, part 265, then can comply with either RCRA, part 265 or YYY provisions; if WMU not subject to RCRA, part 265, comply with YYY provisions.	If WMU subject to Benzene Waste, then can comply with either Benzene Waste or YYY provisions; if WMU not subject to Benzene Waste, comply with YYY provisions.
Reporting	If WMU subject to HON, can comply with either HON or YYY provisions; if WMU not subject to HON, comply with YYY provisions.	Comply with std-stds provisions or YYY provisions *.	If WMU subject to Petroleum Refinery, then can comply with either Petroleum Refinery or YYY provisions; if WMU not subject to Petroleum Refinery, comply with YYY provisions.	If WMU subject to RCRA, part 264, then can comply with either RCRA, part 264 or YYY provisions; if WMU not subject to RCRA, part 264, comply with YYY provisions.	If WMU subject to RCRA, part 265, then can comply with either RCRA, part 265 or YYY provisions; if WMU not subject to RCRA, part 265, comply with YYY provisions **.	If WMU subject to Benzene Waste, then can comply with either Benzene Waste or YYY provisions; if WMU not subject to Benzene Waste, comply with YYY provisions.

TABLE 5 TO SUBPART YYY—COMPLIANCE OPTIONS FOR WASTEWATER TANKS, SURFACE IMPOUNDMENTS, CONTAINERS, INDIVIDUAL DRAIN SYSTEMS, AND OIL-WATER SEPARATORS—Continued

Headings within § 60.774	Part 63, subpart G (HON)	Part 63 (standard-standards)	Part 60, subpart QQQ (petroleum refinery)	Part 264, subpart CC (RCRA CC)	Part 265, subpart CC (RCRA CC)	Part 61, subpart FF (benzene waste)
Recordkeeping	If WMU subject to HON, can comply with either HON or YYY provisions; if WMU not subject to HON, comply with YYY provisions.	Comply with std-stds provisions or YYY provisions *.	If WMU subject to Petroleum Refinery, then can comply with either Petroleum Refinery or YYY provisions; if WMU not subject to Petroleum Refinery, comply with YYY provisions.	If WMU subject to RCRA, part 264, then can comply with either RCRA, part 264 or YYY provisions; if WMU not subject to RCRA, part 264, comply with YYY provisions.	If WMU subject to RCRA, part 265, then can comply with either RCRA, part 265 or YYY provisions; if WMU not subject to RCRA, part 265, comply with YYY provisions.	If WMU subject to Benzene Waste, then can comply with either Benzene Waste or YYY provisions; if WMU not subject to Benzene Waste, comply with YYY provisions.
Leak Detection	If WMU subject to HON, can comply with either HON or YYY provisions; if WMU not subject to HON, comply with YYY provisions.	Comply with std-stds provisions or YYY provisions.	If WMU subject to Petroleum Refinery, then can comply with either Petroleum Refinery or YYY provisions; if WMU not subject to Petroleum Refinery, comply with YYY provisions.	If WMU subject to RCRA, part 264, then can comply with either RCRA, part 264 or YYY provisions; if WMU not subject to RCRA, part 264, comply with YYY provisions.	If WMU subject to RCRA, part 265, then can comply with either RCRA, part 265 or YYY provisions; if WMU not subject to RCRA, part 265, comply with YYY provisions.	If WMU subject to Benzene Waste, then can comply with either Benzene Waste or YYY provisions; if WMU not subject to Benzene Waste, comply with YYY provisions.
Delay of repair	If WMU subject to HON, can comply with either HON or YYY provisions; if WMU not subject to HON, comply with YYY provisions.	Comply with std-stds provisions or YYY provisions.	If WMU subject to Petroleum Refinery, then can comply with either Petroleum Refinery or YYY provisions; if WMU not subject to Petroleum Refinery, comply with YYY provisions.	If WMU subject to RCRA, part 264, then can comply with either RCRA, part 264 or YYY provisions; if WMU not subject to RCRA, part 264, comply with YYY provisions.	If WMU subject to RCRA, part 265, then can comply with either RCRA, part 265 or YYY provisions; if WMU not subject to RCRA, part 265, comply with YYY provisions.	If WMU subject to Benzene Waste, then can comply with either Benzene Waste or YYY provisions; if WMU not subject to Benzene Waste, comply with YYY provisions.
Control device	If WMU subject to HON, can comply with either HON or YYY provisions; if WMU not subject to HON, comply with YYY provisions.	Comply with YYY provisions.	If WMU subject to Petroleum Refinery, then can comply with either Petroleum Refinery or YYY provisions; if WMU not subject to Petroleum Refinery, comply with YYY provisions.	If WMU subject to part RCRA 264, then can comply with either RCRA part 264 or YYY provisions; if WMU not subject to RCRA part 264, comply with YYY provisions.	If WMU subject to RCRA, part 265, then can comply with either RCRA part 265 or YYY provisions; if WMU not subject to RCRA part 265, comply with YYY provisions.	If WMU subject to Benzene Waste, then can comply with either Benzene Waste or YYY provisions; if WMU not subject to Benzene Waste, comply with YYY provisions.

* The owner or operator shall comply with the recordkeeping and reporting provisions in §§ 60.784 and 60.785 of this subpart when complying with the provisions for containers in subpart PP.

** The owner or operator shall comply with the reporting provisions in § 60.784 of this subpart when complying with the provisions of RCRA, 40 CFR part 265.

TABLE 6 TO SUBPART YYY—CONTROL REQUIREMENTS FOR ITEMS OF EQUIPMENT THAT MEET THE CRITERIA OF § 60.775

Item of equipment	Control requirement [a]
Drain or drain hub	(a) Tight fitting solid cover (TFSC); or (b) TFSC with a vent to either a fuel gas system or to a control device meeting the requirements of § 60.780; or (c) Water seal with submerged discharge or barrier to protect discharge from wind.
Manhole [b]	(a) TFSC; or (b) TFSC with a vent to a control device meeting the requirements of § 60.780; or (c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in diameter.
Lift station	(a) TFSC; or (b) TFSC with a vent to a control device meeting the requirements of § 60.780; or

TABLE 6 TO SUBPART YYY—CONTROL REQUIREMENTS FOR ITEMS OF EQUIPMENT THAT MEET THE CRITERIA OF § 60.775—Continued

Item of equipment	Control requirement [a]
	(c) If the lift station is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter. The lift station shall be level controlled to minimize changes in the liquid level.
Trench	(a) TFSC; or (b) TSFC with a vent to a control device meeting the requirements of § 60.780; or (c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
Pipe	Each pipe shall have no visible gaps in joints, seals, or other emission interfaces.
Oil/Water separator	(a) Equip with a fixed roof and closed vent system that routes vapors to a control device meeting the requirements of § 60.780; or (b) Equip with a floating roof that meets the equipment specifications of § 60.693 (a)(1)(i), (a)(1)(ii), (a)(2), (a)(3), and (a)(4).
Tank [c]	Maintain a fixed roof [d]. If the tank is sparged [e] or used for heating or treating by means of an exothermic reaction, a fixed roof and a closed vent system shall be maintained that routes the VOC vapors to a control device that meets the requirements of § 60.780.

[a] Where a tight fitting solid cover (TFSC) is required, it shall be maintained with no visible gaps or openings, except during periods of sampling, inspection, or maintenance.
[b] Manhole includes sumps and other points of access to a conveyance system.
[c] Applies to tanks with capacities of 38 m^3 or greater.
[d] A fixed roof may have openings necessary for proper venting of the tank, such as pressure/vacuum vent, j-pipe vent.
[e] The liquid in the tank is agitated by injecting compressed air or gas.

TABLE 7 TO SUBPART YYY—MONITORING REQUIREMENTS FOR TREATMENT PROCESSES

To comply with	Parameters to be monitored	Frequency	Methods
1. Required mass removal of each organic treated in a properly operated biological treatment unit § 60.779.	Appropriate parameters as specified in § 60.781(c) and approved by the permitting authority.	Appropriate frequency as specified in § 60.781(c) and as approved by permitting authority.	Appropriate methods as specified in § 60.781(c) and as approved by permitting authority.
2. Design steam stripper § 60.779(d).	Steam flow rate	Continuously	Integrating steam flow monitoring device equipped with a continuous recorder.
	Wastewater feed mass flow rate	Continuously	Liquid flow meter installed at stripper influent and equipped with a continuous recorder.
	Wastewater feed temperature	Continuously	Liquid temperature monitoring device installed at stripper influent and equipped with a continuous recorder.
3. Alternative monitoring parameters.	Other parameters may be monitored upon approval from the Administrator in accordance with the requirements specified in § 60.781(d).		

TABLE 8 TO SUBPART YYY—MONITORING REQUIREMENTS FOR CONTROL DEVICES

Control device	Monitoring equipment required	Parameters to be monitored	Frequency
All control devices	1. Flow indicator installed at all bypass lines to the atmosphere and equipped with continuous recorder [b] *or*.	1. Diversion to the atmosphere from the control device *or*.	Hourly records of whether the flow indicator was operating and whether a diversion was detected at any time during each hour. Record and report the times of all periods when emissions are diverted through a bypass line or the flow indicator is not operating.
	2. Valves sealed closed with car-seal or lock-and-key configuration.	2. Monthly inspections of sealed valves	Monthly.
Thermal Incinerator	Temperature monitoring device installed in firebox or in ductwork immediately downstream of firebox [a] and equipped with a continuous recorder [b].	Firebox temperature	Continuous.

TABLE 8 TO SUBPART YYY—MONITORING REQUIREMENTS FOR CONTROL DEVICES—Continued

Control device	Monitoring equipment required	Parameters to be monitored	Frequency
Catalytic Incinerator	Temperature monitoring device installed in gas stream immediately before and after catalyst bed and equipped with a continuous recorder [b].	1. Temperature upstream and downstream of catalyst bed. 2. Temperature difference across catalyst bed.	Continuous.
Flare	Heat sensing device installed at the pilot light and equipped with a continuous recorder [b].	Presence of a flame at the pilot light	Hourly records of whether the monitor was continuously operating and whether the pilot flame was continuously present during each hour.
Boiler or process heater <44 megawatts and vent stream is not mixed with the primary fuel.	Temperature monitoring device installed in firebox [a] and equipped with continuous recorder [b].	Combustion temperature	Continuous.
Condenser	Temperature monitoring device installed at condenser exit and equipped with continuous recorder [b].	Condenser exit (product side) temperature.	Continuous.
Carbon Adsorber (Regenerative).	Integrating regeneration stream flow monitoring device having an accuracy of ±10 percent, *and*. Carbon bed temperature monitoring device.	1. Total regeneration stream mass or volumetric flow during carbon bed regeneration cycle(s). 2. Temperature of carbon bed after regeneration [and within 15 minutes of completing any cooling cycle(s)].	For each regeneration cycle, record the total regeneration stream mass or volumetric flow. For each regeneration cycle and within 15 minutes of completing any cooling cycle, record the carbon bed temperature.
Carbon Adsorber (Non-regenerative).	Organic compound concentration monitoring device [c].	Organic compound concentration of adsorber exhaust.	Daily or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.
Alternative monitoring parameters.	Other parameters may be monitored upon approval from the Administrator in accordance with the requirements in §60.781(e)(3).		

[a] Monitor may be installed in the firebox or in the ductwork immediately downstream of the firebox before any substantial heat exchange is encountered.

[b] "Continuous recorder" is defined in §60.771 of this subpart.

[c] As an alternative to conducting this monitoring, an owner or operator may replace the carbon in the carbon adsorption system with fresh carbon at a regular predetermined time interval that is less than the carbon replacement interval that is determined by the maximum design flow rate and organic concentration in the gas stream vented to the carbon adsorption system.

TABLE 9 TO SUBPART YYY—INFORMATION ON PROCESS WASTEWATER STREAMS TO BE SUBMITTED WITH NOTIFICATION OF COMPLIANCE STATUS [a, b]

Process unit identification code [c]	Stream identification code	VOC concentration (ppmw) [d, e]	Flow rate (lpm) [e, f]	Group 1 or Group 2 [g]	Compliance approach [h]	Treatment process(es) identification [i]	Waste management unit(s) identification	Intended control device

[a] The information specified in this table 9 must be submitted; however, it may be submitted in any format. This table 9 presents an example format.

[b] Other requirements for the Notification of Compliance Status are specified in §60.784(c).

[c] Also include a description of the process unit (e.g., benzene process unit).

[d] Except when §60.773(c) is used, annual average concentration as specified in §60.773(b) and §60.782.

[e] When §60.773(c) is used, indicate the wastewater stream is a designated Group 1 wastewater stream.

[f] Except when §60.773(c) is used, annual average flowrate as specified in §60.773(b) and §60.782.

[g] Indicate whether stream is Group 1 or Group 2.

[h] Cite §60.779 compliance option used.

[i] Identification codes should correspond to those listed in Table 10 of this subpart.

TABLE 10 TO SUBPART YYY—INFORMATION FOR TREATMENT PROCESSES TO BE SUBMITTED WITH NOTIFICATION OF COMPLIANCE STATUS [a,b]

Treatment process identification [c]	Description [d]	Wastewater stream(s) treated [e]	Monitoring parameters [f]

[a] The information specified in this table 10 must be submitted; however, it may be submitted in any format. This table 10 presents an example format.
[b] Other requirements for the Notification of Compliance Status are specified in § 60.784(c) of this subpart.
[c] Identification codes should correspond to those listed in Table 9 of this subpart.
[d] Description of treatment process (e.g., steam stripper).
[e] Stream identification code for each wastewater stream treated by each treatment unit. Identification codes should correspond to entries listed in Table 9 of this subpart.
[f] Parameter(s) to be monitored or measured in accordance with Table 7 and § 60.781 of this subpart.

TABLE 11 TO SUBPART YYY—INFORMATION FOR WASTE MANAGEMENT UNITS TO BE SUBMITTED WITH NOTIFICATION OF COMPLIANCE STATUS [a, b]

Waste management unit Identification [c]	Description [d]	Wastewater stream(s) received or managed [e]

[a] The information specified in this table 11 must be submitted; however, it may be submitted in any format. This table 11 presents an example format.
[b] Other requirements for the Notification of Compliance Status are specified in § 60.784(c) of this subpart.
[c] Identification codes should correspond to those listed in Table 9 of this subpart.
[d] Description of waste management unit.
[e] Stream identification code for each wastewater stream received or managed by each waste management unit. Identification codes should correspond to entries listed in Table 9 of this subpart.

TABLE 12 TO SUBPART YYY—INFORMATION ON RESIDUALS TO BE SUBMITTED WITH NOTIFICATION OF COMPLIANCE STATUS [a, b]

Residual identification [c]	Residual description [d]	Wastewater stream identification [e]	Treatment process [f]	Fate [g]	Control device identification code	Control device description [h]	Control device efficiency [i]

[a] The information specified in this table 12 must be submitted; however, it may be submitted in any format. This table 12 presents an example format.
[b] Other requirements for the Notification of Compliance Status are specified in § 60.784(c) of this subpart.
[c] Name or identification code of residual removed from Group 1 wastewater stream.
[d] Description of residual (e.g., steam stripper A–13 overhead condensates).
[e] Identification of stream from which residual is removed.
[f] Treatment process from which residual originates.
[g] Indicate whether residual is sold, returned to production process, or returned to waste management unit or treatment process; or whether VOC mass of residual is destroyed by 99 percent.
[h] If the fate of the residual is such that the VOC mass is destroyed by 99 percent, give description of device used for VOC destruction.
[i] The fate of the residual is such that the VOC mass is destroyed by 99 percent, provide an estimate of control device efficiency and attach substantiation in accordance with § 60.784(c)(5) of this subpart.

TABLE 13 TO SUBPART YYY—SEMIANNUAL REPORTING REQUIREMENTS FOR CONTROL DEVICES [§ 60.784(F)]

Control Device	Reporting Requirements
Thermal Incinerator	1. Report all daily average [a] temperatures that are above the maximum or below the minimum operating parameter value established in the NCS [b] or operating permit and all operating days when insufficient monitoring data are collected. [c]
Catalytic Incinerator	1. Report all daily average [a] upstream temperatures that are above the maximum or below the minimum operating parameter value established in the NCS [b] or operating permit.

TABLE 13 TO SUBPART YYY—SEMIANNUAL REPORTING REQUIREMENTS FOR CONTROL DEVICES [§ 60.784(F)]—Continued

Control Device	Reporting Requirements
	2. Report all daily average [a] temperature differences across the catalyst bed that are above the maximum or below the minimum operating parameter value established in the NCS [b] or operating permit. 3. Report all operating days when insufficient monitoring data are collected. [c]
Boiler or Process Heater with a design heat input capacity less than 44 megawatts and vent stream is not mixed with the primary fuel.	1. Report all daily average [a] firebox temperatures that are above the maximum or below the minimum operating parameter value established in the NCS [b] or operating permit and all operating days when insufficient monitoring data are collected. [c]
Flare	1. Report the duration of all periods when all pilot flames are absent.
Condenser	1. Report all daily average [a] exit temperatures that are above the maximum or below the minimum operating parameter value established in the NCS [b] or operating permit and all operating days when insufficient monitoring data are collected. [c]
Carbon Adsorber	1. Report all carbon bed regeneration cycles when the total regeneration stream mass or volumetric flow is above the maximum or below the minimum operating parameter value established in the NCS [b] or operating permit. 2. Report all carbon bed regeneration cycles during which the temperature of the carbon bed after regeneration is above the maximum or below the minimum operating parameter value established in the NCS [b] or operating permit. 3. Report all operating days when insufficient monitoring data are collected. [c]
All Control Devices	1. Report the times and durations of all periods when the vent stream is diverted through a bypass line or the monitor is not operating, or 2. Report all monthly inspections that show the valves are moved to the diverting position or the seal has been changed.

[a] The daily average is the average of all values recorded during the operating day, as specified in § 60.785(e) of this subpart.
[b] NCS = Notification of Compliance Status described in § 60.784(c) of this subpart.
[c] The semiannual reports shall include the duration of periods when monitoring data are not collected for each excursion as defined in § 60.784(d)(3) of this subpart.

TABLE 14 TO SUBPART YYY—COMPOUND AND DEFAULT BIORATES USED FOR COMPLIANCE DEMONSTRATIONS FOR ENHANCED BIOLOGICAL TREATMENT PROCESSES (SEE § 60.783(H))

Compound name	Biorate, K1 L/g MLVSS-hr
Acetonitrile	0.100
Acetophenone	0.538
Acrylonitrile	0.750
Biphenyl	5.643
Chlorobenzene	10.000
Dichloroethyl Ether (bis (2-chloroethyl ether)	0.246
Diethyl Sulfate	.0105
Dimethyl Hydrazine (1,1-)	0.227
Dimethyl Sulfate	0.178
Dinitrophenol (2,4-)	0.620
Dinitrotoluene (2,4-)	0.784
Dioxane (1,4-) (1,4-diethylene oxide)	0.393
Ethylene Glycol Dimethyl Ether	0.364
Ethylene Glycol Monobutyl Ether Acetate	0.496
Ethylene Glycol Monomethyl Ether Acetate	0.159
Hexachlorobenzene	16.179
Isophorone	0.598
Methanol	0.200
Methyl Methacrylate	4.300
Nitrobenzene	2.300
Toluidine (-o)	0.859
Trichlorobenzene (1,2,4-)	4.393
Trichlorophenol (2,4,5-)	4.477
Triethylamine	1.064

3. Part 60 is amended by adding appendix J to read as follows:

Appendix J to Part 60—How to Determine Henry's Law Constants, Fm Values, Fr Values, and Fe Values for Organic Compounds

1. *Use of Appendix and General Information.* This appendix has four sections. Section 2 contains the procedures for determining Henry's law constants, fraction measured (Fm) values, fraction removed values (Fr), and fraction emitted (Fe) values for an individual chemical. Section 3 describes how to locate certain resources. Section 4 contains five tables and thirteen forms.

1.1 You should use this appendix if you need to:

1. Determine whether a chemical has a Henry's law constant at 25° C that is less than 0.1 y/x atmosphere per mole fraction (see section 2.1).

2. Determine a fraction measured (Fm) value for a chemical (see section 2.2).

3. Subtract the concentration of a chemical from a Method 25D concentration (see section 2.3).

4. Determine the fraction removed (Fr) value for a chemical that has a Henry's law constant at 25° C that is greater than or equal to 0.1 y/x atmosphere per mole fraction (see section 2.4).

5. Determine the fraction emitted (Fe) value for a chemical that has a Henry's law constant at 25° C that is greater than or equal to 0.1 y/x atmosphere per mole fraction (see section 2.5).

6. Calculate a Henry's law constant at a specific temperature using a Henry's law constant at a different temperature for the same chemical (see section 2.6).

1.2 This appendix requires documentation for some procedures. The referencing subpart, i.e., the rule to which you are complying, may require additional recordkeeping and may specify records concerning this appendix that are to be included in reports.

1.3 When the term ''WATER8'' is used in this appendix, the term ''WATER8, or updates to WATER8'' must be used for the purposes of this appendix. When the term ''CHEM9'' is used in this appendix, the term ''CHEM9, or updates to CHEM9'' must be used for the purposes of this appendix. When the terms ''waste'' or ''wastewater'' are used in this appendix, the term ''waste or wastewater, as applicable to the referencing subpart'' must be used for the purposes of this appendix. When the terms ''Henry's law constant'' or ''Henry's law constants'' are used in this appendix, the terms ''Henry's law constant(s) with units of atmosphere per mole fraction'' must be used for the purposes of this subpart.

2. *Procedures.*

2.1 *How to determine whether a chemical has a Henry's law constant at 25° C that is less than 0.1 y/x.* You must use one of the following to determine whether a chemical has a Henry's law constant that is less than 0.1 y/x atmosphere per mole fraction.

2.1.1 *Use Table 1.* The chemicals listed in Table 1 have a Henry's law constant at 25° C that is less than 0.1 y/x atmosphere per mole fraction.

2.1.2 *Use CHEM9 or WATER8.* Use CHEM9 or WATER8 to determine the Henry's law constant at 25° C. You must know compound properties, such as solubility in water and vapor pressure, and the structure of the compound to estimate a Henry's law constant using CHEM9 or WATER8.

2.1.3 *Determine experimentally.* The Henry's law constant may be measured by several laboratory techniques. These techniques can be categorized as either two phase closed systems techniques or open system techniques.

2.1.3.1 *Two phase closed systems.* For two phase closed system techniques, the volume of each phase and two concentration measurements are needed. The concentration measurements are: (1) concentration in one of the phases, and (2) either the concentration in the other phase or the total concentration in both phases. Use Form 1 to calculate the Henry's law constant for two phase closed systems.

2.1.3.2 *Open systems.* For open systems, gas is passed through a liquid volume containing the compound. The Henry's law constant is calculated from the rate of stripping of the compound from the water. Use Form 2 to calculate the Henry's law constant for open systems.

2.1.4 *Calculate a Henry's law constant at 25° C from a Henry's law constant at a different temperature for the same chemical.* Use the procedures specified in section 2.6 to calculate a Henry's law constant at 25° C from a Henry's law constant at a different temperature for the same chemical.

2.2. *How to determine a Fm value for a chemical.* Fm means compound-specific fraction measured factor, and it has the units of mass measured by Method 25D divided by the total mass in the wastewater. You must use one of the following to determine the Fm value for a chemical.

2.2.1 *Use Table 1 or Table 2.* To determine the Fm value for a chemical with a Henry's law constant at 25° C that is less than 0.1 y/x atmosphere per mole fraction, use the Fm value listed for the chemical in Table 1. To determine the Fm value for a chemical with a Henry's law constant at 25° C that is greater than or equal to 0.1 y/x, use the Fm value listed for the chemical in Table 2.

Note to section 2.2.1: Table 1 and Table 2 include Fm values for Method 25D and for Method 305. Unless otherwise specified in this appendix or the referencing subpart, use the Fm values for Method 25D.

2.2.2 *Use CHEM9.* Use CHEM9 to determine an Fm value. You must know the structure of the chemical and certain other compound properties, e.g., boiling point, Antoine's coefficients, vapor pressure, and solubility in water, to estimate an fm value using CHEM9. The accuracy of the computer estimation procedure depends on the nature of the compound and the quality of the available data. The procedure is flexible in that the method can be used with a variety of different types of compound data. You must confirm and document the compound properties used as inputs for CHEM9 and the lack of availability for missing compound properties. In some cases, this method is not accurate, especially with missing compound properties. Before accepting the estimation values of CHEM9 in these cases, you must document the consistency of the predicted values with other related experimental data.

2.2.3 *Measure the Fm value.* Spike a sample of waste with a known amount of the compound of interest. Measure the concentration of the sample using Method 25D. The Fm value for the recovery of a specific chemical is the ratio of the Method 25D concentration to the actual concentration in the waste sample. You must minimize loss of organic compounds during sample collection and analysis, and maintain sample integrity. An example of acceptable sampling and handling procedures are the sampling and handling requirements in Method 25D.

2.2.4 *Extrapolating a Method 25D Fm Value from a Method 305 Fm value.* Method 305 measures the recovered concentration, not the actual concentration in the wastewater. The Method 25D correction value may be obtained from the Method 305 value and the ratio of the Method 25D value to the Method 305 value for that compound. This ratio for a compound is independent of the wastewater and may be determined once for each compound.

2.3 *How to subtract a chemical from a Method 25D concentration.* You must follow the procedures specified in sections 2.3.1 through 2.3.5 to subtract a chemical's concentration from the total concentration measured by Method 25D. You may only subtract from the total Method 25D concentration compounds for which you have a measured concentration (i.e., you must not subtract compounds for which test results are below the quantification limit.) If an Fm value cannot be determined for a chemical, the concentration of the chemical cannot be subtracted from the Method 25D results. You must follow the procedures in Form 3 to subtract a chemical from a Method 25D concentration. Form 4 provides an example.

2.3.2 *Determine the concentration for each chemical in the wastewater stream that will be subtracted from the Method 25D concentration.* The concentration for each chemical must be determined using a method and sampling procedure specified in the referencing subpart. Methods other than Method 25D and Method 305 are considered alternative methods for the purposes of this appendix.

2.3.3 *Determine the correct Fm value.* If an Fm value is needed, use the procedures in section 2.2 of this appendix to determine the correct Fm value.

2.3.4 *Adjust the concentration of chemicals which may be subtracted from the Method 25D concentration.* You must multiply the concentration of the chemical measured by the alternative method (i.e., a method that is not Method 25D or Method 305 and that is specified in the referencing subpart) by the Method 25D Fm. The product will be the adjusted concentration for that chemical. This adjustment must be done for each chemical you subtract from the concentration measured by Method 25D.

2.3.5 *Subtract.* Subtract the product(s) you calculated from the Method 25D concentration.

2.4 *How to determine an Fr value for a chemical with a Henry's law constant at 25° C that is greater than or equal to 0.1 y/x.* Fr means fraction removal value and is unitless. You must use one of the following to determine a Fr value.

2.4.1 *Use Table 2.* Use the Fr value listed for the chemical in Table 2. The chemicals listed in table 2 have a Henry's law constant at 25° C that is greater than or equal to 0.1 y/x.

2.4.2 *Use 0.99.* Assign an Fr value of 0.99 to any chemical. This is the highest Fr value that is assigned to a chemical.

2.4.3 *Use CHEM9.* Use CHEM9 to determine the Fr value of a chemical. You must know the compound structure and the Henry's law constant at 100° C to estimate an Fr value using CHEM9. The Henry's law constant at 100° C for a chemical must be determined as specified in either section 2.4.3.1, 2.4.3.2, or 2.4.3.3. The method used to determine the Henry's law constant at 100° C for a chemical must be documented.

2.4.3.1 *Determine Henry's law at 100° C experimentally.* The Henry's law constant

may be measured by several laboratory techniques. These techniques can be categorized as either two phase closed systems techniques or open system techniques.

2.4.3.1.1 *Two phase closed systems.* For two phase closed system techniques, the volume of each phase and two concentration measurements are needed. The concentration measurements are: (1) concentration in one of the phases, and (2) either the concentration in the other phase or the total concentration in both phases. Use Form 1 to calculate the Henry's law constant for two phase closed systems.

2.4.3.1.2 *Open systems.* For open systems, gas is passed through a liquid volume containing the compound. The Henry's law constant is calculated from the rate of stripping of the compound from the water. Use Form 2 to calculate the Henry's law constant for open systems.

2.4.3.2 *Calculate a Henry's law constant at 100° C from a Henry's law constant at a different temperature for the same chemical.* Use the procedures in section 2.6 to calculate a Henry's law constant at 100° C from a Henry's law constant at a different temperature for the same chemical.

2.4.3.3 *Literature Value.* Experimental values of Henry's law constants at a 100° C for some chemicals are available in data bases or reported in the literature. You must provide the reference for and description of any database or literature you used.

2.5 *How to determine an Fe value for a chemical that has a Henry's law constant at 25° C that is greater than or equal to 0.1 y/x.* Use the appropriate Fe value as specified in the referencing subpart.

2.5.1 *Default Fe values for emissions from both the individual drain system and the treatment process.* You must measure the temperature of the wastewater stream at the point of determination, unless another location is specified by the referencing subpart. If the temperature of the wastewater stream is less than or equal to 35° C, you may use the default Fe values listed in either Table 2 or Table 3. If the temperature of the wastewater stream is greater than 35° C, you must use the default Fe values listed in Table 3.

2.5.1.1 *Use Table 2.* To use Table 2, use the default Fe value listed for the chemical in Table 2.

2.5.1.2 *Use Table 3.* You must either use a default Fe listed in Table 3 or use Table 3 to interpolate an Fe value. To use Table 3, you must determine the chemical's Henry's law constant at the temperature you measured for the wastewater stream. You must find this Henry's law constant in the table and select an Fe value greater than or equal to the Fe value that corresponds to the Henry's law constant.

2.5.2 *Site-specific Fe values for emissions from the individual drain system.* Use WATER8 and Forms 6 and 7 for each type of waste management unit modeled and Forms 8 through 13, as appropriate for the different types of waste management units. (Note that this Fe value does not include Fe values for the treatment process.)

2.5.3 *Default Fe values for emissions from the biological treatment process (Fet).* The default Fe values in Table 4 and Table 5 are Fe values for the biological treatment system (i.e., the wastewater treatment plant) and have been assigned the abbreviation ''Fet.'' You must measure the temperature of the wastewater stream(s) treated in the biological treatment system at the inlet to the biological treatment system (e.g., at the bar screen). If the temperature of the wastewater stream(s) is less than or equal to 35° C, you must use either Table 4 or Table 5 to determine the Fet value. If the temperature of the wastewater stream is greater than 35° C, you must use Table 5 to determine the Fet value.

2.5.3.1 *Use Table 4.* To use Table 4, use the default Fet value listed for the chemical in Table 4.

2.5.3.2 *Use Table 5.* To use Table 5, you must either use a default Fet listed in Table 5 or use Table 5 to interpolate an Fet value. You must determine the chemical's Henry's law constant at the temperature you measured for the wastewater stream. You must find this Henry's law constant in the table and select an Fet value greater than or equal to the Fet value that corresponds to the Henry's law constant.

2.6 *How to calculate a Henry's law constant from a Henry's law constant at a different temperature for the same chemical.* Use WATER8 and Form 5 to estimate a Henry's law constant from a Henry's law constant at a different temperature for the same chemical.

3. *Location of resources.*

3.1 *Where to find information on CHEM9 and WATER8.*

3.1.1 *CHEM9 and WATER8 access via Internet.* You can find CHEM9 and WATER8 on the Internet by accessing EPA's Technology Transfer Network (TTN) via the Internet. The Internet address is: http://www.epa.gov/ttn/chief/software.html. If you need more information on the TTN, contact the systems operator at (919) 541–5384.

3.1.2 *Procedures used in CHEM9.* Reports describing the CHEM9 procedures for estimating Fm, Fr, and Fe values are in Docket Number A–94–32, Item IV–A–1. The database for CHEM9 is not available as a hard copy.

Docket No. A–94–32 is available for public inspection and copying between 8:00 a.m. and 5:30 p.m., Monday through Friday, at the EPA's Air and Radiation Docket and Information Center, Waterside Mall, Room M–1500, first floor, 401 M Street SW, Washington, DC 20460, or by calling (202) 260–7548 or 260–7549. A reasonable fee may be charged for copying.

3.2 *Methods.*

Method 25D can be found in 40 CFR part 60, Appendix A.

Method 305 can be found in 40 CFR part 63, Appendix A.

4. *Tables and Forms.* This section contains 5 tables and 13 forms.

TABLE 1 OF APPENDIX J.—FM VALUES FOR HENRY'S LAW CONSTANTS AT 25°C LESS THAN 0.1 (Y/X) ATMOSPHERES PER MOLE FRACTION

[Use with Section 2.1]

Compound	Y/X	Fm 25D	Fm 305
1H IMIDAZOLE	0.000004	0.001	0.001
2,4 D	0.000000	0.151	0.167
2,4,5 BENZOIC ACID	0.000007	0.000	0.000
2-HYDROXYETHANAL	0.001400	0.031	0.059
3,4-DIMETHYLPHENOL xylenol	0.004200	0.018	0.017
3,5-DIBROMO-4HYDROXYBENZONITRILE	0.011700	0.021	0.033
3-OXOPROPANOIC ACID	0.007900	0.002	0.004
4-OXOBUTANOIC ACID	0.011100	0.004	0.006
5-OXOPENTANOIC ACID	0.013900	0.005	0.007
ACETALDOL	0.001900	0.011	0.016
ACETAMIDE	0.000100	0.305	0.463
ACETYL-2-THIOUREA, 1-	0.001600	0.034	0.053
ACETYL-5-HYDROXYPIPERIDINE 3	0.038900	0.001	0.001
ACETYLAMINOFLUORENE, 2-	0.074400	0.020	0.018
ACETYLPIPERIDINE 3	0.006900	0.151	0.175
ACRIDINE ORANGE*	0.013300	0.050	0.049
ACRIDINE YELLOW*	0.000400	0.001	0.001
ACRYLAMIDE	0.000015	0.003	0.003
ACRYLIC ACID	0.011000	0.431	0.643
ADAMANTANE DICARBOXYLIC ACID	0.002600	0.001	0.001

TABLE 1 OF APPENDIX J.—FM VALUES FOR HENRY'S LAW CONSTANTS AT 25°C LESS THAN 0.1 (Y/X) ATMOSPHERES PER MOLE FRACTION—Continued

[Use with Section 2.1]

Compound	Y/X	Fm 25D	Fm 305
ADENINE	0.000005	0.001	0.002
ADIPIC ACID	0.000003	0.001	0.001
ADIPONITRILE	0.000700	0.004	0.004
ALACHLOR (M)	0.001800	0.090	0.090
alpha-PICOLINE	0.025900	0.870	0.842
AMETRYN	0.000001	0.001	0.001
AMINOBIPHENYL, 4-	0.017200	0.012	0.011
AMINOETHYLPIPERAZINE	0.000021	0.001	0.001
AMINOPHENOL, 3-	0.003400	0.035	0.040
AMINOPYRIDINE, 4-	0.000005	0.000	0.001
ANILINE	0.097800	0.142	0.138
ANISIDINE, o-	0.097200	0.011	0.013
ANTHRAQUINONE	0.000200	0.001	0.001
ATRAZINE (M)	0.000200	0.117	0.117
BENZENE ACETIC ACID	0.025500	0.014	0.015
BENZENE ARSONIC ACID (M)	0.000006	0.124	0.124
BENZENE DICARBOXYLIC ACID	0.000900	0.001	0.001
BENZENE SULFONIC ACID (M)	0.043900	0.146	0.146
BENZIDINE	0.000001	0.000	0.000
BENZO (A) ANTHRACENE	0.000077	0.121	0.095
BENZO(A) PYRENE	0.000077	1.267	1.000
BENZO (ghi) PERYLENE	0.002800	0.006	0.005
BENZO (k) FLUORANTHENE	0.000059	0.001	0.001
BENZOIC ACID	0.001000	0.003	0.003
BENZOTHIAZOLONE 2 (2H)-*	0.065600	0.121	0.123
BENZYL ALCOHOL	0.033900	0.069	0.067
BHC, gamma-	0.027400	1.035	0.973
BIS (2-ETHYLHEXYL) PHTHALATE	0.016700	0.317	0.327
BROMOCHLOROMETHYL ACETATE	0.010400	0.342	0.541
BUTYL CELLOSOLVE	0.014600	0.095	0.120
BUTYL-m-CRESOL MONO T	0.052100	0.042	0.039
BUTYL-p-CRESOL MONO T	0.052100	0.042	0.039
BUTYRIC ACID	0.096100	0.089	0.124
CAPROLACTAM	0.000200	0.002	0.003
CAPROLACTONE	0.071100	0.205	0.248
CATECHOL	0.000002	0.000	0.000
CHLORACETOPHENONE, 2-	0.048400	0.161	0.152
CHLORO (-p) CRESOL (-m)	0.009100	0.029	0.028
CHLORO-1, 2-ETHANE DIOL (M)	0.005400	0.999	0.999
CHLORO-2, 5-DIKETOPYRROLIDINE 3 (M)	0.003700	0.430	0.430
CHLOROACETIC ACID	0.003600	0.020	0.028
CHLOROANILINE, p-	0.014700	0.069	0.067
CHLOROBENZOPHENONE (PARA)	0.000200	0.313	0.283
CHLOROBENZYLATE	0.000028	0.000	0.000
CHLOROHYDRIN, a 3 CHLORO 1, 2 PROPAN	0.000300	0.003	0.004
CHLOROPHENOL POLYMERS (M)	0.005600	0.000	0.000
CHLOROPHENOL-4	0.062200	0.032	0.031
CHOLINE CHLORIDE	0.000600	0.012	0.015
CHRYSENE	0.000066	0.006	0.004
CITRIC ACID	0.000000	0.000	0.000
CREOSOTE (M)	0.004400	0.025	0.025
CRESOL	0.090000	0.049	0.047
CRESOL (-m)	0.039400	0.035	0.033
CRESOL (-o)	0.091200	0.057	0.055
CRESOL (-p)	0.039700	0.028	0.027
CUMYLPHENOL-4	0.093300	0.002	0.002
CYANIDE methyl	0.001500	0.328	0.417
CYANOMETHYL BENZOATE 4 (M)	0.000700	0.128	0.128
DIAZINON	0.001200	0.001	0.001
DIBENZO (a,h) ANTHRACENE	0.002100	0.001	0.001
DIBUTYLPHTHALATE	0.015600	0.002	0.002
DICHLORO—(2,6)-NITROANILINE (4) (M)	0.000400	0.122	0.122
DICHLOROANILINE 2, 3	0.029900	0.049	0.047
DICHLOROBENZONITRILE,2 ,6-	0.064400	0.338	0.322
DICHLOROPHENOL 2, 5	0.086100	0.151	0.148
DICHLOROTETRAHYDROFURAN 3, 4 (M)	0.007800	0.303	0.303
DICHLORVOS	0.019000	0.008	0.011
DIETHANOLAMINE	0.000000	0.000	0.000
DIETHYL (N, N) ANILINE	0.003200	0.964	0.907

TABLE 1 OF APPENDIX J.—FM VALUES FOR HENRY'S LAW CONSTANTS AT 25°C LESS THAN 0.1 (Y/X) ATMOSPHERES PER MOLE FRACTION—Continued

[Use with Section 2.1]

Compound	Y/X	Fm 25D	Fm 305
DIETHYL PROPIONAMIDE, 2aN (M)	0.001100	0.089	0.089
DIETHYLENE GLYCOL	0.077800	0.000	0.000
DIETHYLENE GLYCOL DIMETHYL ETHER	0.083800	0.105	0.150
DIETHYLENE GLYCOL MONOBUTYL ETHER	0.001200	0.003	0.003
DIETHYLENE GLYCOL MONOETHYL ETHER	0.002700	0.005	0.007
DIETHYLENE GLYCOL MONOETHYL ETHER A	0.035800	0.007	0.010
DIETHYLENE GLYCOL MONOMETHYL ETHER	0.003200	0.004	0.007
DIETHYLENETRIAMINE	0.000001	0.000	0.000
DIETHYLHYDRAZINE N, N	0.019000	0.184	0.253
DIETHYLTHIOPHOSPHATEBENZO M ETHYL P	0.001200	0.000	0.000
DIMETHOATE (M)	0.050900	0.110	0.110
DIMETHYL CARBAMOYL CHLORIDE	0.024700	0.116	0.151
DIMETHYL DISULFIDE	0.083300	0.455	1.000
DIMETHYL FORMAMIDE	0.010600	0.009	0.013
DIMETHYL HYDRAZINE (1, 1)	0.091100	0.277	0.382
DIMETHYL PHTHALATE	0.054800	0.006	0.007
DIMETHYLAMINOAZOBENZENE,4-	0.004100	0.022	0.023
DIMETHYLBENZ (A) ANTHRACENE (7, 12)	0.000015	0.008	0.006
DIMETHYLBENZIDINE 3,3	0.000075	0.000	0.000
DIMETHYLSULFONE	0.001300	0.002	0.003
DIMETHYLSULFOXIDE	0.026900	0.037	0.057
DINITRO-o-CRESOL (4, 6)	0.078000	0.009	0.016
DIPHENYLHYDRAZINE (1, 2)	0.013600	0.462	0.448
DIPROPYLENE GLYCOL	0.000900	0.002	0.003
ENDRIN	0.084400	0.005	0.004
EPINEPHRINE (M)	0.020300	0.133	0.133
ETHANOLAMINE (mono-)	0.017800	0.004	0.007
ETHYL CARBAMATE	0.000600	0.004	0.008
ETHYL MORPHOLINE, ethyl diethylene	0.011300	0.048	0.059
ETHYLENE GLYCOL	0.000100	0.002	0.005
ETHYLENE GLYCOL MONOBUTYL ETHER	0.029200	0.056	0.071
ETHYLENE GLYCOL MONOETHYL ETHER	0.061700	0.111	0.144
ETHYLENE GLYCOL MONOETHYL ETHER AC	0.098600	0.057	0.089
ETHYLENE GLYCOL MONOMETHYL ETHER	0.045800	0.101	0.163
ETHYLENE GLYCOL MONOPHENYL ETHER	0.003800	0.005	0.005
ETHYLENE GLYCOL MONOPROPYL ETHER	0.047400	0.182	0.242
ETHYLENE THIOUREA	0.000008	0.001	0.002
ETHYLPHENOL, 3-	0.005600	0.021	0.020
FLUOROACETIC ACID, SODIUM SALT*	0.000300	0.750	1.000
FORMALDEHYDE	0.018700	0.533	1.000
FORMAMIDE	0.065600	0.092	0.170
FORMIC ACID	0.038900	0.078	0.225
FUMARIC ACID	0.092200	0.000	0.000
GLUTARIC ACID	0.001100	0.000	0.000
GLYCERIN (GLYCEROL)	0.000700	0.000	0.000
GLYCINAMIDE	0.008200	0.019	0.089
GLYOXYLIC ACID	0.006200	0.001	0.002
GLYPHOSATE	0.000400	0.005	0.009
GUANIDINE, NITROSO*	0.048900	0.000	0.001
GUTHION	0.000093	0.001	0.001
GYLCIDOL	0.050100	0.024	0.032
HEXAMETHYLENE 1, 6 DIISOCYANATE	0.014800	0.005	0.007
HEXAMETHYLPHOSPHORAMIDE	0.000000	0.000	0.000
HEXANOIC ACID	0.058900	0.061	0.075
HYDRAZINE	0.037000	0.190	0.332
HYDROCYANIC ACID (M)	0.025800	0.999	0.999
HYDROQUINONE	0.000080	0.000	0.000
HYDROXY-(2)-PROPIONITRILE	0.004200	0.003	0.004
HYDROXYPROPIONALDEHYDE	0.013200	0.066	0.102
INDENO(1,2,3-cd)-PYRENE	0.000000	0.000	0.000
LEAD ACETATE (M)	0.000041	0.062	0.062
LEAD SUBACTEATE (M)	0.000800	0.000	0.000
LEUCINE (M)	0.030000	0.469	0.469
MALATHION (M)	0.006700	0.060	0.060
MALEIC ACID	0.000800	0.000	0.000
MALEIC ANHYDRIDE	0.012200	0.027	0.043
MALIC ACID (hydroxybutaneoic)	0.000000	0.000	0.000
MESITYL OXIDE (M)	0.019500	0.999	0.999
METHANE SULFONIC ACID*	0.026700	0.000	0.001

TABLE 1 OF APPENDIX J.—FM VALUES FOR HENRY'S LAW CONSTANTS AT 25°C LESS THAN 0.1 (Y/X) ATMOSPHERES PER MOLE FRACTION—Continued

[Use with Section 2.1]

Compound	Y/X	Fm 25D	Fm 305
METHOMYL	0.045100	0.008	0.013
METHOXYPHENOL P	0.017200	0.003	0.003
METHYL HYDRAZINE	0.024800	0.082	0.155
METHYL METHANESULFONATE	0.000039	0.001	0.001
METHYL PARATHION	0.000007	0.012	0.020
METHYL SULFURIC ACID (M)	0.031200	0.794	0.794
METHYL THIOPHENOL 4	0.024400	0.885	1.000
METHYL-2-METHOXYAZIRIDINE 1	0.024200	0.727	0.998
METHYLENE DIPHENYL DIISOCYANATE	0.002700	0.010	0.011
METHYLENE DIPHENYLAMINE (MDA)	0.001600	0.002	0.002
METHYLENE-BIS (2-CHLOROANILINE), 4, 4	0.018700	0.008	0.008
METHYLENEDIANILINE 4, 4	0.028500	0.001	0.001
METHYLETHYLIDENE BISPHENOL, 4, 4'	0.000001	0.000	0.000
METHYLFURFURAL 5	0.012200	0.859	1.000
METHYLIMINOACETIC ACID	0.055600	0.002	0.004
MONOMETHYL FORMANIDE	0.000054	0.003	0.005
NABAM	0.000000	0.000	0.000
NAPHTHOL, alpha-	0.001400	0.004	0.004
NAPHTHOL, beta-	0.000800	0.003	0.003
NAPHTHYLAMINE, alpha-	0.002800	0.005	0.005
NAPHTHYLAMINE, beta-	0.002000	0.004	0.004
NEOPENTYL GLYCOL	0.000900	0.004	0.005
NIACIN (M)	0.034200	0.606	0.606
NIACINAMIDE(M)	0.067800	0.623	0.623
NITROANILINE (-o) (M)	0.027800	0.351	0.351
NITROGLYCERIN	0.000000	0.013	0.047
NITROPHENOL, 2-	0.006500	0.011	0.016
NITROPHENOL, 4-	0.000073	0.001	0.001
NITROSODIMETHYLAMINE N	0.048800	0.103	0.285
NITROSODI-n-PROPYLAMINE N	0.025200	0.088	0.105
NITROSODIPHENYLAMINE N*	0.046000	0.026	0.025
NITROSOMORPHOLINE	0.004700	0.011	0.019
NITROSO-N-METHYLUREA N	0.001400	0.015	0.037
OODIETH . O2ETH . THIOETH . PHOSPHORATE (M)	0.000000	0.096	0.096
OXALIC ACID	0.000200	0.010	0.028
PARATHION	0.034000	0.001	0.001
PENTAERYTHRITOL	0.000021	0.000	0.000
PHENACETIN (M)	0.012400	0.135	0.135
PHENOL	0.072200	0.036	0.035
PHENYL MERCURIC ACETATE (M)	0.000700	0.057	0.057
PHENYLACETIC ACID (M)	0.045600	0.385	0.385
PHENYLENE DIAMINE (-m)	0.000600	0.000	0.000
PHENYLENE DIAMINE (-o)	0.000600	0.001	0.002
PHENYLENE DIAMINE (-p)	0.000070	0.001	0.001
PHORATE (M)	0.024300	0.095	0.095
PHTHALIC ANHYDRIDE	0.044100	0.016	0.019
PROPANE SULTONE, 1, 3-	0.000500	0.001	0.002
PROPANONAL (methylglyoxal)	0.001700	0.161	0.242
PROPIOLACTONE b	0.006400	0.199	0.304
PROPORUR (Baygon)	0.003200	0.004	0.004
PROPYLENE GLYCOL	0.083300	0.005	0.008
PYRIDINIUM BROMIDE (M)	0.091700	0.060	0.060
PYRUVIC ACID	0.000200	0.003	0.005
QUINOLINE	0.015000	0.002	0.002
QUINONE	0.057700	0.868	1.000
RESORCINOL	0.001000	0.000	0.000
SIMAZINE (M)	0.000045	0.124	0.124
SODIUM ACETATE	0.000200	0.042	0.079
SODIUM ACRYLATE	0.076100	0.073	0.108
SODIUM FORMATE	0.000094	0.356	0.988
STRYCHNIDIN-10-ONE, 2, 3-DIMETHOXY(M)	0.000800	0.028	0.028
STRYCHNINE (M)	0.000002	0.058	0.058
SUCCINIC ACID	0.000097	0.000	0.001
SUCCINIMIDE*	0.001800	0.000	0.001
SULFANILIC ACID (M)	0.088900	0.138	0.138
TEREPHTHALIC ACID	0.000600	0.001	0.001
TETRAETHYLDITHIOPYROPHOSPHATE	0.00040	.....	.....
TETRAETHYLENE GLYCOL MONOMETHYL ETH	0.000200	0.000	0.001
TETRAETHYLENE PENTAMINE	0.000000	0.000	0.000

TABLE 1 OF APPENDIX J.—FM VALUES FOR HENRY'S LAW CONSTANTS AT 25°C LESS THAN 0.1 (Y/X) ATMOSPHERES PER MOLE FRACTION—Continued

[Use with Section 2.1]

Compound	Y/X	Fm 25D	Fm 305
TETRAETHYLENE PENTAMINE	0.000000	0.000	0.000
TETRAHYDRO 3-FURANOL	0.034400	0.095	0.134
THIOFANOX (M)	0.000500	0.116	0.116
THIOSEMICARBAZIDE*	0.003300	0.000	0.000
THIOUREA, 1- (o-CHLOROPHENYL)-	0.000001	0.000	0.001
TOLUENE DIAMINE (2, 4)	0.000070	0.001	0.001
TOLUENE DIISOCYANATE (2, 4)	0.009200	0.000	0.000
TOLUENEDIAMINE (2, 6)	0.000001	0.000	0.000
TOLUENEDIAMINE (3, 4)	0.000200	0.002	0.002
TOLUIC ACID (para-)	0.000300	0.011	0.012
TOLUIDINE m	0.089400	0.123	0.118
TRICHLORO (1, 1, 2) TRIFLUOROETHANE	0.000008	1.042	1.000
TRIETHANOLAMINE	0.000008	0.000	0.000
TRIETHYLENE GLYCOL DIMETHYL ETHER	0.002600	0.017	0.025
TRIETHYLENE GLYCOL MONOMETHYL ETHER	0.001900	0.004	0.005
TRIETHYLENE TETRAMINE	0.000000	0.000	0.000
TRIPROPYLENE GLYCOL	0.005300	0.004	0.005
WARFARIN	0.000000	0.000	0.000

*Molecular structure only approximate.
(M) fraction measured (fm) estimated from Mwt correlation.

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
1 BROMO 2 CHLORO 2 BUTENE	0.990	0.786	1.000	0.761	
1 BUTYENE	0.990	1.172	1.000	0.872	
1 ETHYL 4 METHYLBENZENE	0.990	1.219	1.000	0.748	
1 HEPTANOL	0.946	0.525	0.564	0.186	
1 HEPTYNE	0.990	1.138	1.000	0.980	
1 HEXYNE	0.990	1.145	1.000	0.924	
1 ISOCYANO 3-METHYLBENZENE	0.990	0.870	0.913	0.210	
1 ISOPROPYL 4 METHYLBENZENE	0.990	1.193	1.000	0.804	
1 METHYLCYCLOHEXENE	0.990	1.138	1.000	0.980	
1 METHYLNAPHTHALENE	0.990	1.237	1.000	0.384	
1 NONYNE	0.990	1.128	1.000	0.980	
1 OCTENE	0.990	1.112	1.000	0.980	
1 OCTYNE	0.990	1.132	1.000	0.980	
1 PENTYNE	0.990	1.156	1.000	0.885	
1,1 DIETHOXYETHANE	0.985	0.810	0.996	0.320	
1,1,3 TRIMETHYLCYCLOPENTANE	0.990	1.124	1.000	0.980	
1,1-DIFLUOROETHANE	0.990	1.077	1.000	0.876	
1,2 DIETHOXYETHANE	0.932	0.762	0.999	0.309	
1,2,4,5 TETRAMETHYLBENZENE	0.990	1.194	1.000	0.887	
1,3-DIOXOLANE	0.642	0.764	1.000	0.232	646–06–0
1,4 PENTADIENE	0.990	1.176	1.000	0.980	
1,5 HEXADIENE	0.990	1.155	1.000	0.980	
1-NITROPROPANE	0.966	0.522	0.982	0.374	
1-PENTANOL	0.990	0.708	0.807	0.579	
1-PENTENE	0.990	1.124	1.000	0.980	
1-PROPOXY 2-PROPANOL	0.430	0.134	0.167	0.070	
2 BUTEN 1 OL	0.207	0.703	0.801	0.095	
2 HEPTANONE	0.990	0.955	0.991	0.356	
2 METHYL 1 BUTANOL	0.797	0.721	0.807	0.201	
2 METHYL 2 BUTENE	0.990	1.143	1.000	0.980	
2 METHYL 2 PENTANOL	0.959	0.806	0.869	0.257	
2 METHYL 3 PENTANOL	0.989	0.539	0.565	0.241	
2 METHYLHEXANE C7H16	0.990	1.099	1.000	0.980	
2 METHYLNAPHTHALENE	0.990	1.237	1.000	0.449	
2 NONANONE	0.990	0.959	0.970	0.441	
2 OCTANONE	0.990	0.961	0.983	0.350	
2 PENTANONE	0.942	0.919	0.998	0.350	
2 PENTENE	0.990	1.131	1.000	0.980	
2 PROPYLBENZENE	0.990	1.198	1.000	0.582	
2 UNDECANONE	0.990	0.927	0.922	0.495	
2-(1-METHOXY)-1-PROPANOL	0.648	0.202	0.251	0.093	
2,2 DIMETHYL PROPANOIC ACID	0.131	0.296	0.376	0.074	

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
2,2 DIMETHYLBUTANE C6H14	0.990	1.108	1.000	0.901	
2,2 DIMETHYLPENTANE	0.990	1.106	1.000	0.980	
2,2,5 TRIMETHYLHEXANE C9H20	0.990	1.114	1.000	0.980	
2,3 DIMETHYL 1,3 BUTADIENE	0.990	1.168	1.000	0.942	
2,3 DIMETHYLBUTANE C6H14	0.990	1.115	1.000	0.980	
2,3 DIMETHYLBUTANOL	0.978	0.648	0.694	0.259	
2,3 DIMETHYLPENTANE C7H16	0.990	1.112	1.000	0.980	
2,3,4 TRIMETHYLPENTANE C8H18	0.990	1.121	1.000	0.980	
2,3-DIMETHYLPYRIDINE	0.048	1.048	1.000	0.110	
2,4 DIMETHYLPENTANE C7H16	0.990	1.112	1.000	0.980	
2,4,5 T.	.....	0.024	0.028	0.000	93–76–5
2,4-DIMETHYLPYRIDINE	0.044	1.048	1.000	0.105	
2,5-DIMETHYLPYRIDINE	0.055	1.048	1.000	0.122	
2,6,DIMETHYL2,5-HEPTADIEN4-ONE	0.990	0.906	0.882	0.354	
2,6-DIMETHYL2,5-HEPTADIEN 4-ONE	0.990	0.682	0.649	0.278	
2,6-DIMETHYLPYRIDINE	0.067	1.048	1.000	0.137	
2-CHLORO 2-METHYLBUTANE	0.990	1.078	1.000	0.726	
2-ETHYL 3-METHOXYPYRAZINE	0.990	0.039	0.050	0.151	
2-ETHYLPYRAZINE	0.746	0.452	0.527	0.070	
2-ETHYLPYRIDINE	0.080	1.041	1.000	0.141	
2-FLUOROPROPANE	0.990	1.099	1.000	0.980	
2-ISOBUTYL 3-METHOXYPYRAZINE	0.990	0.044	0.057	0.256	
2-ISOBUTYLPYRAZINE	0.969	0.362	0.395	0.096	
2-METHYL PENTANE C6H14	0.990	1.100	1.000	0.899	
2-METHYLPYRAZINE	0.626	0.505	0.613	0.068	
2-PENTANOL	0.810	0.721	0.807	0.205	
3 METHYL 1 BUTENE	0.990	1.143	1.000	0.980	
3 METHYL PYRIDINE	0.630	0.685	0.663	0.131	
3 METHYLHEPTANE C8H18	0.990	1.098	1.000	0.980	
3 METHYLHEXANE C7H16	0.990	1.099	1.000	0.980	
3,3 DIMETHYLPENTANE C7H16	0.990	1.106	1.000	0.980	
3,4-DIMETHYLPRYIDINE	0.025	1.048	1.000	0.083	
3,5-DIMETHYLPYRIDINE	0.044	1.048	1.000	0.105	
3-ETHYLPRYIDINE	0.080	1.041	1.000	0.141	
3-HEXANOL	0.990	0.638	0.694	0.294	
3-PENTEN-2-OL	0.860	0.610	0.656	0.230	
4 METHYL 1 PENTENE	0.990	1.134	1.000	0.980	
4 METHYL 2 PENTANOL	0.990	0.539	0.565	0.264	
4 METHYL 2 PENTANONE	0.385	0.923	0.968	0.145	
4 METHYLOCTANE C9H20	0.990	1.098	1.000	0.980	
4-ETHYLPYRIDINE	0.064	1.041	1.000	0.123	
4-METHYLPYRIDINE	0.990	1.033	1.000	0.109	
5 METHOXY 2 PENTANONE	0.798	0.327	0.382	0.142	
ACENAPHTHENE	0.990	1.111	0.899	0.804	83–32–9
ACENAPHTHYLENE	0.990	1.094	0.868	0.312	208–96–8
ACETAL	0.990	0.813	1.000	0.432	
ACETALDEHYDE	0.953	0.724	1.000	0.485	75–07–0
ACETATE (M)	0.990	0.558	0.558	0.794	
ACETIC ACID	0.066	0.101	0.189	0.120	64–19–7
ACETIC ANHYDRIDE	0.524	0.165	0.262	0.214	108–24–7
ACETONE	0.843	0.827	0.997	0.261	67–64–1
ACETONITRILE	0.641	0.778	0.989	0.359	75–05–8
ACETOPHENONE	0.735	0.334	0.314	0.137	96–86–2
ACETYL CHLORIDE	0.990	0.923	1.000	0.531	79–36–5
ACETYL DIETHYLMALONATE	0.978	0.018	0.025	0.156	
ACETYLENE	0.990	1.280	1.000	0.711	74–86–2
ACETYLFURAN 2 *	0.990	0.365	0.423	0.382	1192–62–7
ACETYLMETHYLPHTHALATE 4	0.990	0.036	0.048	0.127	
ACETYLPYRIDINE 3	0.990	0.927	1.000	0.980	1122–54–9
ACIFLUORFEN	0.990	0.198	0.223	0.601	
ACROLEIN	0.968	0.855	1.000	0.427	107–02–8
ACRYLONITRILE	0.969	0.876	0.999	0.429	107–13–1
ADAMANTANE DICHLORIDE	0.990	1.097	0.986	0.562	
AFLATOXINS (M)	0.990	0.063	0.063	0.406	1402–68–2
ALDICARB	0.027	0.002	0.002	0.007	116–06–3
ALDRIN	0.990	0.056	0.051	0.469	509–00–2
ALKYLIMINE CARBOXYLIC ACID N,SUB(M)	0.848	0.125	0.125	0.111	
ALLYL ALCOHOL	0.783	0.538	0.659	0.276	107–18–6
ALLYL CHLORIDE	0.990	1.092	1.000	0.887	107–05–1
ALLYL ETHER, diallyl ether	0.990	0.974	1.000	0.663	
ALPHA METHYL STYRENE	0.990	1.217	1.000	0.767	98–83–9

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
ALPHA METHYL STYRENE DIMERS	0.990	1.186	0.975	0.855	
alpha-CHLORO-beta-METHYLNAPHTHALENE	0.990	1.197	1.000	0.828	86–52–2
ALPHA-HYDROXYACETALDEHYDE	0.990	0.031	0.059	0.515	
ALPHA-HYDROXYADIPIMIDE (M)	0.925	0.144	0.144	0.135	
AMINO-2-CHLOROTOLUENE 4	0.990	0.020	0.020	0.790	
AMINO-3-CHLORO-5-PHENYLCYCLOHEXA(M)	0.622	0.143	0.143	0.086	
AMINO-4-CHLORO-6-CYANOPYRIDINE 2(M)	0.990	0.148	0.148	0.411	
AMINO-4′-CHLOROBIPHENYL 4(M)	0.990	0.123	0.123	0.980	
AMINO-4-CHLOROPYRIDINE 2 (M)	0.990	0.514	0.514	0.710	1072–98–6
AMINO-4-NITROBENZYL ALCOHOL 2 (M)	0.742	0.149	0.149	0.102	
AMINO-4-NITROTOLUENE 2	0.990	0.000	0.001	0.802	99–55–8
AMINO-5-CHLOROPYRIDINE 2 (M)	0.990	0.514	0.514	0.384	1072–98–6
AMINOBENZOIC ACID (-p) (M)	0.624	0.368	0.368	0.086	150–13–0
AMINOCYCLOHEXANE	0.934	0.929	0.996	0.416	108–91–8
AMINOMETHYL-3-ISOXAZOLOL 5 (M)	0.990	0.760	0.760	0.287	2763–96–4
AMINOPHENOL(-o)	0.641	0.034	0.039	0.083	95–55–6
AMINOPHENOL(-p)	0.265	0.001	0.001	0.180	101–80–4
AMINO-p′-METHYLAZOBENZENE P (M)	0.990	0.119	0.119	0.852	
AMINOPROPIONITRILE 3 (M)	0.834	0.999	0.999	0.163	151–18–8
AMITROLE (M)	0.618	0.999	0.999	0.085	61–82–5
AMMONIA	0.990	0.520	1.000	0.732	7664–41–7
AMPHETAMINE(M)	0.990	0.401	0.401	0.323	60–15–1
AMYL ACETATE(-n)	0.990	0.426	0.504	0.462	628–63–7
ANETHOLE (M)	0.990	0.180	0.180	0.406	104–46–1
ANISOLE	0.990	1.036	1.000	0.731	100–66–3
ANTHRACENE	0.990	0.109	0.087	0.513	120–12–7
ARAMITE (M)	0.990	0.058	0.058	0.406	140–57–8
AURAMINE (M)	0.990	0.091	0.091	0.980	492–80–8
AZASERINE (M)	0.986	0.138	0.138	0.206	115–02–6
AZEPINE (M)	0.990	0.058	0.058	0.817	111–49–9
AZIRIDINE ethyleneimine	0.990	0.628	0.867	0.685	151–56–4
BENXENEDICARBOXYLIC ACID DIHEPTYL	0.990	0.113	0.119	0.667	
BENZ(c)ACRIDINE (M)	0.990	0.110	0.110	0.853	225–51–4
BENZAL CHLORIDE	0.990	1.159	0.996	0.798	98–87–3
BENZALDEHYDE	0.980	0.516	0.490	0.283	100–52–7
BENZALKONIUM CHLORIDE (M)	0.408	0.129	0.129	0.065	
BENZEN SULFONATE (M)	0.990	0.642	0.642	0.894	
BENZENE	0.990	1.227	1.000	0.797	71–43–2
BENZETHONIUM CHLORIDE (M)	0.956	0.001	0.001	0.140	121–54–0
BENZIDINE DIHYDROCHLORIDE(M)	0.990	0.096	0.096	0.980	531–85–1
BENZO(B)FLUORANTHENE	0.990	1.219	0.962	0.135	205–99–2
BENZO(j)FLUORANTHENE (M)	0.990	0.099	0.099	0.853	205–82–3
BENZODIOXANE-1,3 (M)	0.668	0.108	0.108	0.093	
BENZOFLUORANTHENE,3,4-(M)	0.990	0.099	0.099	0.853	205–99–2
BENZOFURAN 2,3	0.990	1.061	0.988	0.374	
BENZOIC ACID, 4 METHYL	0.642	0.102	0.108	0.103	
BENZONITRILE	0.990	0.397	0.373	0.170	100–47–0
BENZOPHENONE	0.990	0.052	0.046	0.834	119–61–9
BENZOPYRENE 3,4 (M)	0.990	0.099	0.099	0.318	50–32–8
BENZOQUINONE,p-(M)	0.990	0.862	0.862	0.794	106–51–4
BENZOTHIAZOLE *	0.990	0.059	0.060	0.341	95–16–9
BENZOTRICHLORIDE	0.990	1.069	0.958	0.558	98–07–7
BENZOYL CHLORIDE	0.990	1.132	0.979	0.468	98–88–4
BENZYL CHLORIDE	0.990	1.164	1.000	0.415	100–44–7
BENZYL METHYL ETHER	0.990	1.047	1.000	0.587	538–86–3
BHC,alpha-	0.990	1.063	1.000	0.729	319–84–6
BHC,beta-	0.990	1.063	1.000	0.854	319–85–7
BHC,delta-	0.990	1.063	1.000	0.588	319–86–8
BICYCLO(4,2,0) OCTA 1.3.5 TRIENE	0.990	1.222	1.000	0.759	
BICYCLO[2.2.1]-2,5-HEPTADIENE DI(M)	0.990	0.146	0.146	0.980	
BIPHENYL	0.990	1.074	0.864	0.445	92–52–4
BIS (2-CHLOROETHOXY) METHANE	0.282	0.170	0.196	0.067	111–91–1
BIS(1,1,2,2-TETRACHLOROPROPYL) ETHE	0.990	0.960	1.000	0.980	
BIS(2-CHLOROETHYL)ETHER	0.656	0.806	0.858	0.162	111–44–4
BIS(2-CHLOROISOPROPYL)ETHER	0.990	0.948	0.972	0.310	108–60–1
BIS(CHLOROMETHYL)ETHER	0.975	0.888	0.999	0.459	542–88–1
BISPHENOL(A)	0.990	0.011	0.011	0.665	80–05–7
BROMACIL	0.990	0.582	1.000	0.980	
BROMO-(1)-CHLOROETHANE-2	0.990	0.711	1.000	0.995	107–04–0
BROMO-3-CHLOROBUTADIENE 2	0.990	0.803	1.000	0.820	
BROMO-4-CHLORO-6-CYANOBENZYL ALC(M)	0.941	0.131	0.131	0.136	

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
BROMO-4-CHLOROCYCLOHEXANE 1	0.990	0.819	0.986	0.980	
BROMO-4-CYANOMETHYL BENZOATE 2 (M)	0.990	0.105	0.105	0.980	
BROMO-4-CYANOMETHYL BENZOATE 3 (M)	0.990	0.105	0.105	0.885	
BROMOACETONE	0.520	0.356	0.590	0.145	598–31–2
BROMOBENZENE	0.990	1.182	1.000	0.745	108–86–1
BROMOBENZYL ALCOHOL-(m)	0.371	0.012	0.015	0.083	15852–73–
BROMOBENZYL ALCOHOL-(o)	0.371	0.012	0.015	0.083	18982–34–
BROMOBENZYL ALCOHOL-(p)	0.371	0.012	0.015	0.083	873–75–6
BROMOCHLOROBENZENE P	0.990	0.870	1.000	0.980	106–39–8
BROMOCHLOROBENZYL ALCOHOL	0.420	0.007	0.009	0.107	
BROMOCHLOROMETHANE	0.990	1.017	1.000	0.992	74–97–5
BROMODICHLOROMETHANE	0.990	0.735	1.000	0.980	75–27–4
BROMOETHYL ACETATE	0.911	0.470	0.801	0.458	927–68–4
BROMOETHYLENE	0.990	0.629	1.000	0.990	543–60–2
BROMOFORM	0.990	0.480	0.998	0.494	75–25–2
BROMOMETHANE	0.990	0.539	1.000	0.852	74–83–9
BROMOPHENYL PHENYL ETHER,4-	0.990	0.240	0.265	0.269	101–55–3
BROMOPROPIONITRILE 3 (M)	0.990	0.422	0.422	0.856	2417–90–5
BROMOTOLUENE 4	0.990	1.164	1.000	0.676	106–38–7
BROMOURACIL,5-(M)	0.990	0.130	0.130	0.980	51–20–7
BUTADIENE-(1,3)	0.990	1.187	1.000	0.979	106–99–0
BUTANE	0.990	1.080	1.000	0.980	106–97–8
BUTANEDINITRILE	0.990	0.007	0.009	0.182	110–61–2
BUTANENITRILE (M)	0.521	0.999	0.999	0.266	109–74–0
BUTANOL ISO	0.821	0.647	0.756	0.068	78–83–1
BUTANOL(S)	0.846	0.502	0.600	0.253	78–92–2
BUTANOL-1	0.818	0.502	0.600	0.177	71–36–3
BUTENE	0.990	1.131	1.000	0.980	
BUTYL ACETATE(-n)	0.990	0.808	0.995	0.368	123–86–4
BUTYL ACRYLATE	0.990	0.781	0.910	0.492	141–32–2
BUTYL BENZENE	0.990	1.181	1.000	0.980	104–51–8
BUTYL BENZYL PHTHALATE	0.990	0.052	0.053	0.852	85–68–7
BUTYL CARBITOL	0.990	0.006	0.008	0.980	112–34–5
BUTYL MERCAPTAN	0.990	0.692	1.000	0.980	
BUTYL-3-METHOXY PYRAZINE, 2-ISO (M)	0.990	0.142	0.142	0.980	24683–00-
BUTYLAMINE	0.904	0.813	0.948	0.241	109–73–9
BUTYLBUTOXY PROPIONATE	0.990	0.263	0.276	0.266	
BUTYLENE GLYCOL-(1,3)	0.780	0.003	0.004	0.096	107–88–0
BUTYLISOBUTYRATE	0.990	0.873	1.000	0.794	
BUTYRALDEHYDE	0.989	0.861	0.992	0.490	123–72–8
BUTYRALDEHYDE ISO	0.989	0.886	1.000	0.438	78–84–2
c10 linear	0.990	1.088	1.000	0.980	
c11 linear	0.990	1.088	1.000	0.980	
CACODYLIC ACID (M)	0.983	0.354	0.354	0.219	75–60–5
CAMPHENE (M)	0.990	0.383	0.383	0.588	79–92–5
CAPTAN	0.990	0.007	0.008	0.196	
CARBARYL sevin	0.990	0.015	0.016	0.202	63–25–2
CARBAZOLE (M)	0.990	0.141	0.141	0.980	86–74–8
CARBENDAZIM	0.957	0.023	0.038	0.070	
CARBON DIOXIDE (M)	0.990	0.999	0.999	0.896	
CARBON DISULFIDE	0.990	0.213	1.000	0.918	75–15–0
CARBON OXYFLUORIDE*	0.990	0.884	1.000	0.993	353–50–4
CARBON TETRACHLORIDE	0.990	1.027	1.000	0.900	56–23–5
CARBONYL FLUORIDE *	0.658	0.884	1.000	0.358	
CARBONYL SULFIDE	0.886	0.547	1.000	0.500	
CHLORAL	0.990	0.938	1.000	0.556	302–17–0
CHLORAMBEN	0.962	0.545	0.633	0.229	
CHLORAMBUCIL	0.957	0.031	0.031	0.101	305–03–3
CHLORDANE	0.990	0.438	0.407	0.151	57–74–9
CHLORENDIC ANHYDRIDE (M)	0.990	0.558	0.558	0.794	115–27–5
CHLORINATED TARS (M)	0.990	0.050	0.050	0.343	
CHLORNAPHAZINE	0.990	0.422	0.385	0.158	
CHLORO 2 BUTENE,1 trans	0.990	1.098	1.000	0.632	
CHLORO(-p)PHENYLHYDRAZINE(M)	0.990	0.286	0.286	0.398	
CHLORO-1,3-CYCLOPENTADIENE 5	0.990	1.148	1.000	0.948	
CHLORO-2,2-DIBROMOETHANE 1	0.990	0.569	0.919	0.526	
CHLORO-2,3-EPOXYPROPANE,1-(M)	0.977	0.999	0.999	0.321	106–89–8
CHLORO-2-METHOXYBENZOIC ACID 4 (M)	0.990	0.132	0.132	0.722	57479–70–
CHLORO-2-NITROBENZYL ALCOHOL 4 (M)	0.601	0.132	0.132	0.083	22996–18–
CHLORO-3-NITRO-5-PHENYLCYCLOHEXA (M)	0.631	0.131	0.131	0.087	
CHLORO-3-NITROANILINE 4 (M)	0.990	0.139	0.139	0.342	635–22–3

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
CHLORO-4AMINOCOUMARAN-6 CARBOXYLI(M)	0.990	0.118	0.118	0.980	
CHLORO-4-CYANOBENZYL ALCOHOL 2 (M)	0.743	0.149	0.149	0.102	
CHLORO-4-HYDROXYBIPHENYL 3 (M)	0.990	0.123	0.123	0.980	92–04–6
CHLORO-4-METHOXY-6-AMINOBENZOIC(M)	0.990	0.125	0.125	0.449	
CHLORO-4-METHYL-N-METHYLBENZAMID(M)	0.832	0.134	0.134	0.109	
CHLORO-4-NITROANISOLE 2 (M)	0.990	0.131	0.131	0.980	
CHLORO-4-PHENYLPYRIDINE 2(M)	0.839	0.130	0.130	0.110	
CHLORO-5AMINO3PYRIDINE CARB.ACID (M)	0.990	0.134	0.134	0.439	
CHLORO-5-CYANOPHTHALIC ACID 4 (M)	0.990	0.112	0.112	0.980	
CHLORO-5-CYANOTOLUENE 3 (M)	0.990	0.150	0.150	0.601	
CHLORO-5-FLUOROTOLUENE 3	0.990	1.150	1.000	0.400	443–83–4
CHLORO-5-PHENOXYDIMETHYL PHTHALA(M)	0.990	0.065	0.065	0.980	
CHLOROACETALDEHYDE	0.762	0.855	0.997	0.324	107–20–0
CHLOROALLYL ALCOHOL 2	0.926	0.270	0.291	0.244	5976–47–6
CHLOROANILINE(2)	0.990	0.245	0.238	0.867	95–51–2
CHLOROANILINE(3)	0.990	0.108	0.105	0.867	108–42–9
CHLOROAZOBENZENE	0.990	1.204	1.000	0.852	
CHLOROBENZENE	0.990	1.157	1.000	0.728	108–90–7
CHLOROBENZENESULFONIC ACID (-p)(M)	0.826	0.137	0.137	0.108	100–03–8
CHLOROBENZILATE	0.876	0.000	0.000	0.030	510–15–6
CHLOROBENZOIC ACID,2	0.629	0.083	0.089	0.105	118–91–2
CHLOROBENZOIC ACID,3-	0.535	0.083	0.089	0.092	535–80–8
CHLOROBENZOIC ACID,4-	0.535	0.083	0.089	0.092	74–11–3
CHLOROBENZOTRICHLORIDE P	0.990	1.103	1.000	0.980	5216–25–1
CHLOROBENZOTRIFLUORIDE, P	0.990	1.131	1.000	0.980	
CHLOROBENZYL ALCOHOL-(m)	0.852	0.035	0.033	0.074	873–63–2
CHLOROBENZYL ALCOHOL-(o)	0.275	0.058	0.056	0.074	17849–38–
CHLOROBENZYL ALCOHOL-(p)	0.251	0.040	0.039	0.074	873–76–7
CHLOROBIPHENYL (-p)	0.990	1.204	1.000	0.840	2051–62–9
CHLOROBUTADIENE,1	0.990	1.124	1.000	0.850	
CHLOROCOUMARAN 2 (M)	0.990	0.135	0.135	0.832	2051–59–4
CHLOROCYANOBENZENE (1,4) (M)	0.990	0.362	0.362	0.980	873–32–5
CHLOROCYCLOHEXANE	0.990	1.081	1.000	0.980	542–18–7
CHLOROCYCLOHEXANOL 2	0.990	0.102	0.107	0.428	1561–86–0
CHLOROCYCLOHEXANOL 4	0.990	0.102	0.107	0.587	
CHLORODIACETYL (M)	0.990	0.651	0.651	0.980	
CHLORODIMETHYL PHTHALATE 3 (M)	0.990	0.111	0.111	0.980	
CHLORODIPHENYL THIOETHER P (M)	0.990	0.123	0.123	0.851	7005–72–3
CHLOROETHANE (ethyl chloride)	0.990	1.046	1.000	0.901	75–00–3
CHLOROETHANOL (ETHYLENE CHLOROHYDRI	0.480	0.256	0.309	0.221	107–07–3
CHLOROETHYL(2-) VINYL ETHER	0.990	0.934	1.000	0.910	110–75–8
CHLOROETHYLENE	0.990	1.064	1.000	0.757	
CHLOROFLUOROBENZENE P	0.990	1.152	1.000	0.980	352–33–0
CHLOROFLUOROMETHANE *	0.355	1.075	1.000	0.980	593–70–4
CHLOROFORM	0.990	1.023	1.000	0.775	67–66–3
CHLOROHYDROXYPHENYL4 METHYLBENZ(M)	0.990	0.094	0.094	0.980	
CHLOROMETHYL ACETYLENE *	0.990	1.121	1.000	0.980	
CHLOROMETHYL BENZOATE P (M)	0.990	0.140	0.140	0.980	1126–46–1
CHLOROMETHYL ETHYL KETONE	0.990	0.873	0.935	0.697	
CHLOROMETHYL METHYL ETHER	0.937	0.840	1.000	0.494	107–30–2
CHLOROMETHYL PHENYL KETONE	0.290	0.715	0.673	0.077	532–27–4
CHLOROMETHYL PHENYLHYDRAZINE P (M)	0.990	0.147	0.147	0.413	
CHLOROMETHYLAMINOIMINE (M)	0.990	0.999	0.999	0.913	
CHLORONAPHTHALENE,2–	0.990	1.177	0.980	0.870	91–58–7
CHLORONITROALKOXYIMINE (M)	0.958	0.110	0.110	0.142	
CHLORONITROBENZENE(-o)	0.990	0.519	0.625	0.808	88–73–3
CHLORONITROBENZENE, p	0.990	0.591	0.713	0.301	
CHLORO-N-METHYLBENZAMIDE P (M)	0.818	0.140	0.140	0.107	
CHLOROPHENOL-2	0.323	0.245	0.240	0.107	95–97–8
CHLOROPHENOL-3	0.635	0.057	0.057	0.078	108–43–0
CHLOROPHENYL PHENYL ETHER,4-*	0.990	0.861	0.775	0.389	7005–72–3
CHLOROPHENYLETHANOL 1,1	0.990	0.057	0.054	0.807	
CHLOROPHTHALIC ANHYDRIDE 4 (M)	0.595	0.133	0.133	0.083	
CHLORO-p'-METHYLBIPHENYL P (M)	0.990	0.124	0.124	0.850	1667–11–4
CHLOROPRENE	0.990	1.124	1.000	0.677	126–99–8
CHLOROPROPANE-1	0.990	1.055	1.000	0.858	540–54–5
CHLOROPROPANE-2	0.990	1.050	1.000	0.867	75–29–6
CHLOROPROPENE 3	0.990	1.092	1.000	0.980	557–98–2
CHLOROPROPIONITRILE,3–	0.359	0.580	0.622	0.111	542–76–7
CHLOROPROPYLENE-2	0.990	1.090	1.000	0.980	557–98–2
CHLORO-p-XYLENE	0.987	1.163	1.000	0.592	104–82–5

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
CHLOROPYRIDINE 2 (M)	0.990	0.769	0.769	0.599	109–09–1
CHLOROSTYRENE (-4)	0.990	1.179	1.000	0.788	1331–28–8
CHLOROTETRAHYDROFURAN 3 (M)	0.990	0.642	0.642	0.407	
CHLOROTHIOPHENOL P *	0.990	0.893	1.000	0.980	106–54–7
CHLOROTOLUENE-4	0.990	1.164	1.000	0.741	106–43–4
CHLOROURACIL,5-(M)	0.990	0.138	0.138	0.980	1820–81–1
cis 1,2 DIMETHYLCYCLOHEXANE	0.990	1.117	1.000	0.980	
CITRUS RED #2 (M)	0.990	0.071	0.071	0.853	6358–53–8
COPPER PHTHALOCYANINE (M)	0.990	0.000	0.000	0.764	147–14–8
COUMARAN (M)	0.990	0.215	0.215	0.980	91–64–5
CROTONALDEHYDE	0.578	0.887	0.974	0.212	470–30–3
CROTONYLENE (2-BUTYNE)	0.990	1.185	1.000	0.980	503–17–3
CUMENE (isopropylbenzene)	0.990	1.197	1.000	0.876	98–82–8
CUMENE HYDROPEROXIDE	0.987	0.478	0.464	0.204	
CYANOBENZYL ALCOHOL P *	0.147	0.002	0.002	0.070	
CYANOGEN	0.990	0.800	1.000	0.747	460–19–5
CYANOGEN BROMIDE *	0.990	0.558	1.000	0.462	506–68–3
CYANOGEN CHLORIDE(M)	0.990	0.999	0.999	0.704	506–77–4
CYANOGUANIDINE (M)	0.990	0.999	0.999	0.648	461–58–5
CYANOMETHYLPHTHALATE 4 (M)	0.990	0.071	0.071	0.980	
CYANOPYRIDINE (-4) *	0.990	0.118	0.124	0.980	100–48–1
CYANOPYRIDINE 3 *	0.990	0.113	0.119	0.980	100–54–9
CYANOTOLUENE 4	0.990	0.450	0.419	0.980	
CYANURIC ACID (M)	0.491	0.505	0.505	0.072	108–80–5
CYCASIN (M)	0.990	0.099	0.099	0.794	14901–08-
CYCLOHEXADIENE1,4DIONE2,6BIS11DIMET	0.753	0.027	0.026	0.072	
CYCLOHEXANE	0.990	1.093	1.000	0.859	110–82–7
CYCLOHEXANOL	0.851	0.456	0.493	0.159	
CYCLOHEXANOL	0.925	0.243	0.262	0.136	108–93–0
CYCLOHEXANONE	0.198	0.703	0.740	0.088	108–94–1
CYCLOHEXENE	0.990	1.136	1.000	0.980	110–83–8
CYCLOHEXENE 1 ONE, 2	0.759	0.498	0.507	0.183	
CYCLOHEXYL ACETATE	0.990	0.846	0.963	0.273	622–45–7
CYCLOHEXYL-2,2-DIPHENYLETHYLAMIN(M)	0.990	0.097	0.097	0.384	
CYCLOHEXYL-4,6-DINITROPHENOL,2-(M)	0.990	0.092	0.092	0.980	131–89–5
CYCLOHEXYLAMINE	0.978	0.878	0.940	0.280	108–91–8
CYCLOHEXYLCYCLOHEXANONE 4	0.990	0.732	0.707	0.727	56025–96-
CYCLOPENTADIENE	0.990	1.198	1.000	0.980	
CYCLOPENTADIENE 1,3	0.990	1.198	1.000	0.713	
CYCLOPENTANE	0.990	1.093	1.000	0.980	
CYCLOPENTENE	0.990	1.144	1.000	0.979	
CYCLOPHOSPHAMIDE (M)	0.990	0.094	0.094	0.610	50–18–0
CYCLOPROPANE C3H6	0.990	1.093	1.000	0.980	
CYCLOHEXYL o,o-DIMETHYL PHOS.DIT(M)	0.99	0.105	0.980	0.980	
CYMENE,para	0.990	1.193	1.000	0.871	
CYTOSINE (M)	0.990	0.811	0.811	0.831	71–30–7
DAUNOMYCIN(M)	0.990	0.000	0.000	0.853	20830–81–
DAZOMET	0.900	0.085	0.153	0.066	
DDD,p,p'-	0.950	1.150	1.000	0.394	72–54–8
DDE,p,p'-	0.990	1.138	0.990	0.621	72–55–9
DDT	0.990	1.131	1.000	0.980	50–29–3
DECANAL	0.990	0.918	0.928	0.612	
DECENE, 8 METHYL 1-	0.990	1.116	1.000	0.980	
DIACETYL (M)	0.990	0.999	0.999	0.318	431–03–8
DIAMINO-5-SULFONYL BENZYL 2,4 (M)	0.990	0.133	0.133	0.628	
DIAMINODIPHENYLMETHANE P,P' (M)	0.990	0.126	0.126	0.980	101–77–9
DIAZOMETHANE	0.575	0.573	1.000	0.356	
DIBENZOFURANS	0.990	1.112	0.967	0.740	
DIBENZOPYRENE 1,2,7,8	0.990	0.803	0.633	0.720	
DIBROMO-3-CHLOROPROPANE,1,2	0.709	1.048	1.000	0.185	96–12–8
DIBROMOCHLOROMETHANE	0.990	0.585	1.000	0.643	124–48–1
DIBROMOETHANE–1,2	0.990	1.114	1.000	0.852	106–93–4
DIBROMOMETHANE	0.990	0.493	1.000	0.558	74–95–3
DIBUTYL ETHER	0.990	0.958	1.000	0.727	142–96–1
DIBUTYLAMINE	0.990	0.949	0.984	0.300	
DICHLORO 2-PROPANOL 1,3	0.990	0.237	0.257	0.570	96–23–1
DICHLORO PROPANOL 2,3	0.507	0.119	0.130	0.255	616–23–9
DICHLORO-1,3-CYCLOPENTADIENE 5,5(M)	0.990	0.413	0.413	0.980	
DICHLORO-2-BUTENE 1,2	0.990	1.079	1.000	0.562	
DICHLORO-2-BUTENE(1,4)	0.990	1.079	1.000	0.453	764–41–0
DICHLORO-2-BUTENE, 1,4	0.990	1.079	1.000	0.612	

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
DICHLOROANILINE(2,3)	0.527	0.121	0.117	0.064	
DICHLOROBENZENE(1,2) (-o)	0.990	1.134	1.000	0.637	95–50–1
DICHLOROBENZENE(1,3) (-m)	0.990	1.134	1.000	0.719	541–73–1
DICHLOROBENZENE(1,4) (-p)	0.990	1.134	1.000	0.724	106–46–7
DICHLOROBENZIDINE,3,3'-	0.001	0.055	0.053	0.026	91–94–1
DICHLOROBENZOPHENONE P,P	0.978	0.366	0.332	0.093	90–98–2
DICHLOROBIPHENYL (PARA)	0.990	1.177	1.000	0.914	213029–08
DICHLOROBUTANE (1,4)	0.990	1.052	1.000	0.980	110–56–5
DICHLORODIPHENYLMETHANE (M)	0.990	0.107	0.107	0.855	2051–90–3
DICHLOROETHANE(1,1)	0.990	1.024	1.000	0.792	75–34–3
DICHLOROETHANE(1,2)	0.990	1.040	1.000	0.640	107–06–2
DICHLOROETHENE 1,2 trans	0.990	1.061	1.000	0.981	156–60–5
DICHLOROETHENE(1,1)	0.990	1.061	1.000	0.937	75–35–4
DICHLOROETHYL ETHER	0.872	0.711	0.757	0.212	
DICHLOROETHYLENE(1,2) cis	0.990	1.061	1.000	0.904	156–54–2
DICHLOROIODOMETHANE	0.990	0.553	0.975	0.362	
DICHLOROMONOFLUOROMETHANE	0.990	1.023	1.000	0.989	75–43–4
DICHLOROPHENOL	0.990	0.940	0.920	0.227	
DICHLOROPHENOL(2,4)	0.945	0.158	0.154	0.094	120–83–2
DICHLOROPHENOL(2,6)	0.846	0.213	0.209	0.094	87–65–0
DICHLOROPHENOXYACETIC ACID(2,4)	0.990	0.922	1.000	0.978	94–75–7
DICHLOROPROPANE 1,2	0.990	1.054	1.000	0.720	78–87–5
DICHLOROPROPENE(1,3)	0.990	1.071	1.000	0.759	542–75–6
DICHLOROPROPYLENE,1,2-(cis)	0.990	1.062	1.000	0.831	
DICHLOROPROPYLENE,1,2-(trans)	0.990	1.072	1.000	0.853	563–54–2
DICHLOROPROPYLENE-2,3	0.990	1.071	1.000	0.857	78–88–6
DICHLOROSTYRENE 2,6	0.990	1.149	1.000	0.823	
DICHLORO-TRANS-ETHYLENE(1,2)	0.990	1.061	1.000	0.980	540–59–0
DIELDRIN	0.990	0.259	0.235	0.225	60–57–1
DIETHYL AMINE	0.828	0.865	1.000	0.286	109–89–7
DIETHYL ETHER	0.990	0.856	1.000	0.423	602–97–6
DIETHYL ETHER ACID CHLORIDE (M)	0.990	0.379	0.379	0.980	
DIETHYL PHTHALATE	0.990	0.054	0.063	0.853	84–66–2
DIETHYL SULFATE	0.909	0.001	0.002	0.107	
DIETHYL THIOETHER (M)	0.990	0.999	0.999	0.980	352–93–2
DIETHYLBENZENE P	0.990	1.191	1.000	0.784	105–05–5
DIETHYLDIPHENYL UREA SYM(M)	0.990	0.091	0.091	0.859	85–98–3
DIETHYLENE GLYCOL DIETHYL ETHER	0.316	0.168	0.217	0.033	
DIETHYLUREA 1,1 (M)	0.729	0.726	0.726	0.101	634–95–7
DIHYDRO-5-OXAZALONE (DIHYDROAZLA (M)	0.990	0.982	0.982	0.722	
DIISOBUTYLENE	0.990	1.127	1.000	0.980	
DIISODECYL PHTHALATE	0.990	0.007	0.007	0.451	
DIISOPROPYL BENZENE (PARA)	0.990	1.184	1.000	0.980	100–18–5
DIISOPROPYL KETONE	0.990	0.973	1.000	0.483	
DIISOPROPYLAMINE	0.990	0.939	1.000	0.409	
DIMETHOXY METHANE	0.878	0.594	0.950	0.442	109–87–5
DIMETHOXY-(3,3')-BENZIDINE	0.990	0.000	0.000	0.660	119–90–4
DIMETHYL AMINE	0.321	0.709	0.996	0.198	124–40–3
DIMETHYL BENZ(A)ANT 7,12	0.990	1.214	0.973	0.857	
DIMETHYL BENZOIC ACID, 2,4	0.854	0.101	0.105	0.115	
DIMETHYL BENZOIC ACID, 3,5	0.854	0.101	0.105	0.115	
DIMETHYL BENZYLAMINE N,N	0.990	0.003	0.003	0.587	103–83–3
DIMETHYL METHYLTHIOCARBAMATE N,N(M)	0.990	0.676	0.676	0.863	
DIMETHYL NITROISOPROPYLAMINE N,N(M)	0.990	0.439	0.439	0.389	
DIMETHYL NITROSAMINE (M)	0.990	0.999	0.999	0.980	
DIMETHYL SULFATE	0.549	0.034	0.086	0.079	77–78–1
DIMETHYL SULFIDE	0.990	0.508	1.000	0.829	75–18–3
DIMETHYL TRISULFIDE	0.990	0.354	1.000	0.980	
DIMETHYL-1-NITROBENZENE 2,4	0.990	0.564	0.669	0.801	25168–04–
DIMETHYLACETAMIDE	0.547	0.707	0.994	0.284	
dimethylaniline N,N	0.990	0.000	0.001	0.342	57–14–7
DIMETHYLBENZYL HYDROPEROXIDE (M)	0.990	0.149	0.149	0.466	80–15–9
DIMETHYLETHYLAMINE	0.990	0.865	1.000	0.523	75–64–9
DIMETHYLGLYCOL	0.990	0.102	0.136	0.483	
DIMETHYLHYDANTOIN,5,5-(M)	0.990	0.521	0.521	0.980	77–71–4
DIMETHYLPHENOL (2,4)	0.990	0.050	0.047	0.552	105–67–9
DIMETHYLPHENYLCARBINOL (M)	0.990	0.385	0.385	0.794	617–94–7
DIMETHYLSULFOXIDE	0.854	0.821	0.990	0.419	
DINITROBENZENE M	0.023	0.564	1.000	0.285	99–65–0
DINITROPHENOL 2,4	0.990	0.004	0.008	0.059	51–28–5
DINITROTOLUENE 2,6	0.990	.....	.....	0.109	606–20–2

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
DINITROTOLUENE (2,4)	0.390	0.052	0.085	0.178	121–14–2
DINOCAP (M)	0.990	0.043	0.043	0.980	39300–45–
DI-n-OCTYL PHTHALATE	0.990	0.000	0.000	0.980	117–84–0
DINOSEB (M)	0.990	0.105	0.105	0.575	88–85–7
DIOXANE (1,4)	0.387	0.618	0.869	0.181	123–91–1
DIOXIN (M)	0.990	0.064	0.064	0.279	828–00–2
DIPHENYL ETHER (M)	0.990	0.140	0.140	0.662	101–84–8
DIPHENYL THIOETHER (M)	0.990	0.132	0.132	0.838	139–66–2
DIPHENYLAMINE (M)	0.513	0.140	0.140	0.074	122–39–4
DIPHENYLBUTADIENE 1,3 (M)	0.990	0.122	0.122	0.647	886–65–7
DIPHENYLCHLOROMETHANE (M)	0.990	0.124	0.124	0.850	90–99–3
DIPHENYLDIKETONE (M)	0.990	0.120	0.120	0.851	134–81–6
DIPHENYLETHANE 1,1 (M)	0.990	0.134	0.134	0.551	
DIPHENYLETHANOL 1,1 (M)	0.416	0.126	0.126	0.066	599–67–7
DIPHENYLHYDRAZINE,1,1-(M)	0.990	0.133	0.133	0.796	530–50–7
DIPHENYLMETHANE	0.990	0.628	0.509	0.195	101–81–5
DIPROPYLAMINE	0.979	0.927	0.998	0.411	142–84–7
DIPROPYLBUTRAL	0.990	0.622	0.618	0.292	
DIPROPYLFORMAMIDE (M)	0.990	0.503	0.503	0.980	6282–00–4
DI-tert-BUTYL-p-CRESOL	0.990	0.031	0.028	0.072	128–37–0
DIVINYL KETONE (M)	0.990	0.999	0.999	0.457	
dodecane	0.990	1.089	1.000	0.980	
EDTA (M)	0.990	0.999	0.999	0.412	60–00–4
ENDOSULFAN	0.900	0.020	0.018	0.102	115–29–7
ENDOSULFAN SULFATE (M)	0.990	0.014	0.014	0.980	1031–07–8
ENDRIN ALDEHYDE (M)	0.990	0.999	0.999	0.412	
EPICHLOROHYDRIN	0.915	0.847	0.939	0.350	106–89–8
EPOXYBUTANE 1,2	0.990	0.879	1.000	0.582	
ETHANE	0.990	1.067	1.000	0.946	
ETHANOL	0.322	0.586	0.860	0.126	64–17–5
ETHENE	0.990	1.187	1.000	0.980	
ETHENYL 2 METHYL BENZENE, 1-	0.990	1.240	1.000	0.710	
ETHOXYETHANOL-2	0.545	0.144	0.207	0.134	110–80–5
ETHYL 2 METHYL BENZENE, 1-	0.990	1.198	1.000	0.731	
ETHYL ACETATE PEROXIDE (M)	0.990	0.659	0.659	0.706	
ETHYL ACRYLATE	0.990	0.788	1.000	0.483	140–88–5
ETHYL BUTANOATE	0.990	0.775	1.000	0.457	
ETHYL CYANIDE (PROPIONITRILE) (M)	0.990	0.999	0.999	0.580	107–12–0
ETHYL ETHER	0.990	0.856	1.000	0.506	60–29–7
ETHYL HEPTANOATE	0.990	0.868	1.000	0.470	
ETHYL ISOPROPYL PEROXIDE (M)	0.990	0.931	0.931	0.386	
ETHYL METHANOATE	0.990	0.537	1.000	0.566	
ETHYL PENTANOATE	0.990	0.813	1.000	0.428	
ETHYL PEROXIDE	0.341	0.146	0.283	0.112	
ETHYL PROPYL ETHER	0.990	0.894	1.000	0.571	
ETHYL S,S-DIPHENYL PHOSPHORODITH (M)	0.990	0.070	0.070	0.333	1709–49–8
ETHYL TOLUENE, 4	0.990	1.198	1.000	0.857	
ETHYL VINYL ETHER	0.990	0.890	1.000	0.652	
ETHYL(2) HEXANOL	0.990	0.256	0.268	0.266	104–76–7
ETHYL-(2)-PROPYL-(3) ACROLEIN (M)	0.977	0.999	0.999	0.257	645–62–5
ETHYLACETATE	0.987	0.722	1.000	0.404	141–78–6
ETHYLAMINE	0.358	0.711	0.999	0.280	75–04–7
ETHYLBENZENE	0.990	1.204	1.000	0.828	100–41–4
ETHYLENE	0.990	1.187	1.000	0.980	74–85–1
ETHYLENE DIAMINE	0.963	0.012	0.022	0.241	107–15–3
ETHYLENE DIBROMIDE	0.990	0.537	0.999	0.565	106–93–4
ETHYLENE GLYCOL DIMETHYL ETHER	0.905	0.601	0.860	0.316	110–71–4
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE	0.772	0.031	0.043	0.067	
ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE	0.285	0.055	0.093	0.048	110–49–6
ETHYLENE OXIDE	0.986	0.712	1.000	0.503	75–21–8
ETHYLETHOXY PROPIONATE	0.940	0.491	0.577	0.213	
ETHYLHEXYL HEXANOL 2	0.990	0.065	0.064	0.125	
ETHYLHEXYLACRYLATE,2-	0.990	0.925	0.992	0.705	103–11–7
FENCHONE,d- (M)	0.990	0.149	0.149	0.406	4695–62–9
FLUORANTHENE	0.990	0.049	0.039	0.656	206–44–0
FLUORENE	0.990	0.965	0.774	0.314	86–73–7
FLUOROMETHANE	0.990	1.130	1.000	0.873	
FLUOROURACIL,5- (M)	0.990	0.999	0.999	0.412	51–21–8
FORMYL FLUORIDE	0.990	0.848	1.000	0.577	
FREON 11, fluorotrichloromethane	0.990	1.053	1.000	0.954	
FREON 12 DICHLORODIFLUOROMETHANE	0.990	1.059	1.000	0.980	75–71–8

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
FREON 12, dichlorodifluoromethane	0.990	1.059	1.000	0.980	
FREONS (M)	0.990	0.644	0.644	0.980	
FURAN	0.990	0.983	1.000	0.755	110–00–9
FURFURAL	0.990	0.288	0.334	0.354	98–01–1
FUROIC ACID (M)	0.990	0.794	0.794	0.480	88–14–2
GEOSMIN (M)	0.990	0.134	0.134	0.406	19700–21–
GLYOXAL	0.502	0.490	0.888	0.297	
GUANINE (M)	0.990	0.149	0.149	0.980	73–40–5
HEPTACHLOR	0.990	0.619	0.566	0.647	76–44–8
HEPTACHLOR EPOXIDE (M)	0.976	0.030	0.030	0.162	1024–57–3
HEPTANAL	0.990	0.942	0.991	0.407	
HEPTANE ISO	0.990	1.099	1.000	0.980	31394–54–
HEPTANE(-n)	0.990	1.085	1.000	0.980	142–82–5
HEXACHLOROBENZENE	0.990	1.047	0.966	0.643	118–74–1
HEXACHLOROBUTADIENE	0.990	0.937	0.883	0.855	87–68–3
HEXACHLOROCYCLOHEXANE (GAMMA ISOMER)	0.990	0.141	0.132	0.106	58–89–9
HEXACHLOROCYCLOPENTADIE NE	0.990	0.886	0.826	0.803	77–47–4
HEXACHLOROETHANE	0.990	0.515	0.499	0.852	67–72–1
HEXACHLOROPENTADIENE (M)	0.990	0.088	0.088	0.860	
HEXADECANE N (M)	0.990	0.112	0.112	0.980	544–76–3
HEXAFLUOROACETONE	0.990	0.968	1.000	0.980	
HEXAFLUOROPROPENE	0.990	1.080	1.000	0.980	116–15–4
HEXAMETHYLENEDIAMINE (M)	0.971	0.724	0.724	0.213	124–09–4
HEXAMETHYLENIMINE	0.520	0.923	0.989	0.109	
HEXANAL	0.990	0.928	0.997	0.400	
HEXANE(-n)	0.990	1.084	1.000	1.000	110–54–3
HEXANOL 2 ETHYL	0.942	0.256	0.268	0.134	104–76–7
HEXANOL-1	0.963	0.322	0.355	0.180	111–27–3
HEXEN-2-ONE 5	0.979	0.885	0.915	0.347	
HEXENE	0.990	1.119	1.000	0.980	
HEXYL ETHANOATE	0.990	0.865	0.998	0.475	
HEXYLAMINE	0.948	0.803	0.870	0.239	
HYDROFLUORIC ACID (M)	0.990	0.558	0.558	0.537	7664–39–3
HYDROGEN SULFIDE	0.990	0.333	1.000	0.882	
HYDROXY DIMETHYL ETHER (M)	0.990	0.999	0.999	0.874	
HYDROXY–1,3-CYCLOPENTADIENE 5 (M)	0.990	0.999	0.999	0.728	
HYDROXY–4-METHYLTETRAHYDROFURAN(M)	0.990	0.948	0.948	0.385	
HYDROXY–5-METHYLDIMETHYL PHTHALA (M)	0.990	0.113	0.113	0.980	
HYDROXY6METHYLPYRIDINE3 CARBOXYLI (M)	0.990	0.148	0.148	0.409	38116–61–
HYDROXYACETIC ACID	0.760	0.000	0.001	0.570	79–14–1
HYDROXYCYCLOHEXANONE 4 (M)	0.631	0.761	0.761	0.087	
HYDROXYDIMETHYL PHTHALATE 4 (M)	0.990	0.120	0.120	0.980	
HYDROXYMETHYL ACETYLENE (M)	0.990	0.999	0.999	0.980	
HYDROXYMETHYL ISOPROPYL KETONE (M)	0.990	0.999	0.999	0.662	
HYDROXYMETHYL, N-METHYLETHYL AMI (M)	0.990	0.999	0.999	0.980	
HYDROXYMETHYL-N-CHLOROMETHYLETHY (M)	0.990	0.838	0.838	0.980	
HYDROXYMETHYLPHENYL CARBAMATE N (M)	0.920	0.147	0.147	0.137	
HYDROXYMETHYLTHIOBENZENE (M)	0.990	0.320	0.320	0.790	
HYDROXYMETHYLVINYL ETHER (M)	0.990	0.490	0.490	0.905	
HYDROXYPENTANE 3 (M)	0.990	0.999	0.999	0.450	
INDANOL,5-(M)	0.990	0.128	0.128	0.980	1470–94–6
INDOLE (M)	0.990	0.708	0.708	0.980	120–72–9
IODOCOUMARAN 2 (M)	0.990	0.102	0.102	0.980	
ISOBUTANE	0.990	1.103	1.000	0.963	
ISOBUTYL ETHANOATE	0.990	0.786	1.000	0.486	
ISOBUTYLBENZENE	0.990	1.191	1.000	0.905	
ISOBUTYLENE	0.990	1.141	1.000	0.916	
ISOCYANO 4 METHYL BENZENE*	0.980	0.422	0.384	0.198	
ISODECANOL	0.932	0.165	0.158	0.099	
ISODECYL OCTYL ESTER	0.990	1.033	1.000	0.906	
ISOPENTANE	0.990	1.101	1.000	0.954	
ISOPENTYL ETHANOATE	0.990	0.852	0.999	0.487	
ISOPENTYL METHANOATE	0.990	0.941	0.997	0.503	
ISOPHORONE	0.616	0.525	0.506	0.108	78–59–1
ISOPROPYL AMINE	0.990	0.811	1.000	0.538	75–31–0
ISOPROPYL ETHER	0.019	0.939	1.000	0.730	108–20–3
ISOPROPYL METHANOATE	0.990	0.886	1.000	0.578	
ISOPROPYL METHANOATE	0.990	0.865	1.000	0.547	
ISOPROPYL PROPANOATE	0.990	0.825	1.000	0.487	
ISOXAZOLOL,5-(AMINOMETHYL)-3-(M)	0.990	0.760	0.760	0.980	2763–96–4
LINDANE hexachlorocyclohexane	0.990	1.063	1.000	0.703	

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
MELAMINE (M)	0.990	0.554	0.554	0.980	108–78–1
MERCAPTOBENZOTHIAZOLE,2	0.990	0.844	1.000	0.641	
MERCURY (M)	0.990	0.125	0.125	0.854	7439–97–6
METHACRYLIC ACID	0.990	0.068	0.091	0.194	79–41–4
METHANE	0.990	1.067	1.000	0.980	74–82–8
METHANETHIOL (M)	0.990	0.999	0.999	0.731	74–93–1
METHANOL	0.317	0.433	0.855	0.168	67–56–1
METHAPYRILENE (M)	0.990	0.094	0.094	0.980	91–80–5
METHOXYACETIC ACID	0.593	0.005	0.010	0.064	625–45–6
METHOXYACETONITRILE (M)	0.990	0.999	0.999	0.382	1738–36–9
METHOXYCHLOR	0.990	0.085	0.081	0.333	72–43–5
METHYL 1-PENTENE 2	0.990	1.125	1.000	0.980	763–29–1
METHYL 2-PROPYL ETHER	0.990	0.976	1.000	0.537	
METHYL ACETATE	0.989	0.590	0.906	0.454	79–20–9
METHYL ACRYLATE	0.990	0.748	1.000	0.478	96–33–3
METHYL ACRYLONITRILE (M)	0.990	0.999	0.999	0.980	126–98–7
METHYL AMINE	0.990	0.516	0.992	0.877	74–89–5
METHYL AMINOACETYLENE (M)	0.990	0.999	0.999	0.980	
METHYL AZIRIDINE 2	0.900	0.838	1.000	0.360	
METHYL BENZOATE	0.692	0.924	0.981	0.168	
METHYL BENZYL ALCOHOL 4	0.917	0.058	0.056	0.154	
METHYL BIPHENYL (-p) (M)	0.990	0.141	0.141	0.819	644–08–6
METHYL BUTANOATE	0.990	0.775	1.000	0.413	
METHYL CHLORIDE	0.990	1.040	1.000	0.840	74–87–3
METHYL CHLOROACETAMIDE N (M)	0.863	0.872	0.872	0.137	
METHYL CHLOROCARBONATE (M)	0.990	0.999	0.999	0.980	79–22–1
METHYL CHOLANTHRENE 3	0.990	1.234	0.990	0.322	56–49–5
METHYL COUMARAN 2 (M)	0.990	0.145	0.145	0.811	607–71–6
METHYL CYCLOHEXANE	0.990	1.107	1.000	0.980	108–87–2
METHYL ETHER dimethyl ether	0.990	0.698	1.000	0.730	115–10–6
METHYL ETHYL ETHER	0.990	0.791	1.000	0.617	
METHYL ETHYL KETONE, 2 butanone	0.958	0.872	0.990	0.477	78–93–3
METHYL FORMATE	0.590	0.535	0.997	0.548	107–31–3
METHYL HEXANOATE	0.990	0.843	1.000	0.441	
METHYL IODIDE	0.990	0.354	1.000	0.711	74–88–4
METHYL ISOAMYL KETONE (M)	0.990	0.761	0.761	0.318	110–12–3
METHYL ISOBUTYL KETONE	0.990	0.933	0.979	0.529	108–10–1
METHYL ISOCYANATE	0.990	0.272	1.000	0.870	624–83–9
METHYL ISOPROPYL KETONE	0.986	0.922	0.991	0.523	563–80–4
METHYL MERCAPTAN	0.990	0.333	1.000	0.719	
METHYL METHACRYLATE	0.986	0.801	0.999	0.366	80–62–6
METHYL MORPHOLINE	0.435	0.365	0.475	0.078	
METHYL NAPTHALENE (1-)	0.990	1.204	0.973	0.512	90–12–0
METHYL NAPTHALENE (-12)	0.990	1.219	0.986	0.246	91–57–6
METHYL OCTANOATE	0.990	0.888	1.000	0.524	
METHYL PENTANOATE	0.990	0.813	1.000	0.417	
METHYL PEROXIDE	0.587	0.024	0.070	0.159	
METHYL PROPANOATE	0.985	0.724	1.000	0.431	
METHYL PROPENE 2 (M)	0.990	0.999	0.999	0.980	115–11–7
METHYL PROPYL ETHER	0.990	0.848	1.000	0.598	
METHYL TERTIARY-BUTYL ETHER	0.990	0.911	1.000	0.573	1634–04–4
METHYL TETRAHYDROFURAN 2	0.990	0.914	1.000	0.357	
METHYL THIOURACIL (M)	0.990	0.283	0.283	0.753	56–04–2
METHYL-1,3-CYCLOPENTADIENE 5 (M)	0.990	0.999	0.999	0.924	26519–91–
METHYL-2,3,4-TRIHYDROQUINOLINE N (M)	0.912	0.218	0.218	0.137	
METHYL-2-AMINOETHYLAMINE (M)	0.990	0.999	0.999	0.871	109–81–9
METHYL-2-HYDROXYETHYLAMINE (M)	0.578	0.999	0.999	0.081	109–83–1
METHYL-3-ACETYLCYCLOPENTADIENE 1 (M)	0.990	0.897	0.897	0.754	
METHYL-3-NITROBENZYL ALCOHOL 4 (M)	0.767	0.141	0.141	0.103	40870–59–
METHYL-4-NITROBENZYL ALCOHOL 2 (M)	0.568	0.141	0.141	0.079	23876–13–
METHYL-5-THIOACETYLDIHYDRO1,3THI (M)	0.994	0.146	0.146	0.980	
METHYLACETONITRILE (M)	0.990	0.999	0.999	0.980	75–86–5
METHYLBUTADIENE (isoprene)	0.990	1.176	1.000	0.980	
METHYLBUTYLAMINE	0.809	0.791	0.883	0.178	
METHYLCYCLOPENTANE	0.990	1.109	1.000	0.980	
METHYLENE CHLORIDE, dichloromethane	0.990	1.017	1.000	0.770	75–09–2
METHYLFURAN 2 (M)	0.509	0.999	0.999	0.073	534–22–5
METHYLISOBORNEOL,2-(M)	0.990	0.141	0.141	0.794	NA
METHYLPHENYL CARBAMATE N (M)	0.906	0.320	0.320	0.137	
METHYL-PHENYLETHYLAMINE N (M)	0.990	0.401	0.401	0.587	589–08–2
METHYL-p'-METHYLTRIPHENYL PHOSPH (M)	0.990	0.079	0.079	0.862	

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
METHYLSTYRENE (-4)	0.990	1.217	1.000	0.767	98–93–9
METHYLTIN TRICHLORIDE (M)	0.470	0.105	0.105	0.070	993–16–8
METHYL-TRIHYDRO-1,3-THIAZOLE 4 (M)	0.990	0.914	0.914	0.316	
MITOMYCIN C (M)	0.990	0.058	0.058	0.980	50–07–7
MNNG (M)	0.990	0.199	0.199	0.980	70–25–7
MONOCHLORODIFLUOROMETHANE	0.990	1.023	1.000	0.990	75–45–6
MORPHOLINE	0.990	0.148	0.207	0.437	110–91–8
MUSTARD GAS (M)	0.990	0.146	0.146	0.406	505–60–2
NAPHTHALENE	0.990	1.239	0.994	0.506	
NAPHTHALENE ACETIC ACID 2 METHYL,	10.99	0.863	0.830	0.567	
NAPHTHOQUINONE-1,4 (M)	0.958	0.146	0.146	0.164	130–15–4
NICKEL CYANIDE (M)	0.990	0.817	0.817	0.284	557–19–7
NITRO m XYLENE, 2	0.990	0.779	0.923	0.455	
NITRO-4-METHYLBENZOATE 3 (M)	0.990	0.128	0.128	0.980	
NITROANILINE P	0.990	0.000	0.000	0.411	100–01–6
NITROBENZENE	0.808	0.305	0.394	0.228	98–95–3
NITROBENZENESULFONYL CHLORIDE P (M)	0.990	0.114	0.114	0.458	98–74–8
NITROBENZYL ALCOHOL P (M)	0.990	0.149	0.149	0.356	619–73–8
NITROBIPHENYL,4-	0.976	0.044	0.046	0.075	92–93–3
NITROCELLULOSE (M)	0.990	0.000	0.000	0.558	9004–70–0
NITROETHANE	0.225	0.412	0.964	0.161	
NITROGEN MUSTARD N-OXIDE (M)	0.990	0.139	0.139	0.794	126–85–2
NITROMETHANE	0.990	0.255	0.954	0.883	75–52–5
NITROMETHYLBENZENE	0.990	0.463	0.570	0.270	
NITROPROPANE 2	0.985	0.531	0.989	0.437	79–46–9
NITROSOBENZYL ALCOHOL 4 (M)	0.901	0.405	0.405	0.136	
NITROSOPYRROLIDINE N (M)	0.990	0.997	0.997	0.980	930–55–2
NITROTOLUENE (-p)	0.990	0.339	0.417	0.45199–	99–0
NITROTOLUENE, m	0.990	0.475	0.585	0.279	
NITROTOLUENE, o	0.990	0.534	0.657	0.296	
NITROTOLUENE, o	0.988	0.534	0.657	0.266	
NONANAL	0.990	0.938	0.959	0.558	
NONANOL, n	0.856	0.099	0.103	0.091	
NONYLPHENOL(M)	0.990	0.115	0.115	0.794	25154–52
OCTAMETHYLPYROPHOSPHORAMIDE (M)	0.990	0.082	0.082	0.980	152–16–9
OCTANAL	0.990	0.946	0.979	0.465	
OCTANE	0.990	1.086	1.000	0.980	111–65–9
OCTANOL 1	0.990	0.184	0.195	0.240	111–87–5
OCTANOL 2	0.983	0.381	0.398	0.136	
OCTANOL 3	0.990	0.514	0.536	0.104	
OCTANOL 4	0.990	0.446	0.466	0.118	
OIL (decane)	0.990	1.088	1.000	0.951	
OXAMIC ACID (M)	0.990	0.999	0.999	0.317	471–47–6
PARABROMOPHENOL (M)	0.925	0.139	0.139	0.135	106–41–2
PARAFORMALDEHYDE (M)	0.990	0.000	0.000	0.558	30525–89-
PARALDEHYDE	0.795	0.717	0.991	0.232	123–63–7
PCB 1016 (monochlorobiphenyl)	0.990	1.204	1.000	0.345	12674–11-
PCB 1221 (monochlorobiphenyl)	0.990	1.204	1.000	0.418	11104–28-
PCB 1232 (dichlorobiphenyl)	0.990	1.177	1.000	0.543	11141–16-
PCB 1242 (trichlorobiphenyl)	0.990	1.075	0.929	0.488	53469–21-
PCB 1248 (quatrochlorobiphenyl)	0.990	1.142	1.000	0.640	12672–29-
PCB 1254(pentachlorobipheny l	0.990	0.698	0.618	0.813	11097–69-
PCB 1260 (hexachlorobiphenyl)	0.990	0.504	0.450	0.791	11096–82-
PCB'S (Aroclors)	0.990	1.142	1.000	0.507	
PENTACHLOROBENZENE	0.990	1.091	1.000	0.796	608–93–5
PENTACHLOROETHANE	0.990	0.991	0.966	0.877	76–01–7
PENTACHLORONITROBENZENE	0.990	0.774	0.839	0.405	
PENTACHLOROPHENOL	0.990	0.092	0.090	0.298	87–86–5
PENTADIENE 1,2	0.990	1.191	1.000	0.855	
PENTAERYTHRITOL TETRANITRATE (M)	0.976	0.067	0.067	0.162	78–11–5
PENTANAL	0.990	0.904	0.999	0.406	
PENTANE	0.990	1.082	1.000	0.925	
PENTYL PROPANOATE	0.990	0.868	1.000	0.537	
PENTYLAMINE	0.903	0.822	0.917	0.254	
PENTYLBENZENE	0.990	1.173	1.000	0.766	
PENTYLCYCLOPENTANE	0.990	1.103	1.000	0.980	
PERCHLOROMETHYL MERCAPTAN (M)	0.990	0.132	0.132	0.980	594–42–3
PERYLENE (M)	0.990	0.099	0.099	0.853	198–55–0
PHENANTHRENE	0.990	0.279	0.222	0.193	85–01–8
PHENOL,3-(1,1-DIMETHYLETHYL)-(M)	0.990	0.558	0.558	0.794	585–34–2
PHENOTHIAZINE (M)	0.990	0.125	0.125	0.874	92–84–2

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
PHENYL ISOCYANATE (M)	0.990	0.674	0.674	0.855	103–71–9
PHENYLACETIC PEROXIDE (M)	0.917	0.149	0.149	0.137	
PHENYLCYCLOHEXANONE 4	0.990	1.029	0.914	0.826	4894–75–1
PHENYLHYDRAZINE (M)	0.990	0.860	0.860	0.314	100–63–0
PHENYLPHENOL P	0.990	0.001	0.001	0.710	92–69–3
PHENYLTHIOUREA (M)	0.990	0.149	0.149	0.863	103–85–5
PHOSGENE (decomposes)	0.990	0.868	1.000	0.872	75–44–5
PHOSPHINE	0.990	0.213	1.000	0.996	7803–51–2
PHTHALATE, DI N BUTYL–	0.971	0.006	0.006	0.095	
PHTHALATE, DI N OCTYL	0.990	0.042	0.044	0.574	
PHTHALIC ACID	0.990	0.714	0.924	0.858	88–99–3
PHTHALIMIDE	0.990	0.850	0.957	0.854	85–41–6
PICOLINE(2-) (M)	0.990	0.999	0.999	0.398	109–06–8
PINENE(alpha-)	0.990	1.165	1.000	0.890	80–56–8
PIPERAZINE	0.990	0.031	0.042	0.339	110–85–0
POLYCYCLIC KETONE O (M)	0.990	0.000	0.000	0.948	
PROPANAL	0.902	0.813	1.000	0.436	
PROPANE	0.990	1.075	1.000	0.880	74–98–6
PROPANE), 2,2'-OXYBIS(2-CHLORO-(M)	0.990	0.138	0.138	0.980	39638–32
PROPANOIC ACID	0.104	0.105	0.163	0.064	79–09–4
PROPANOL	0.595	0.305	0.421	0.185	
PROPANOL ISO	0.451	0.740	0.926	0.190	67–63–0
PROPENAL	0.943	0.855	1.000	0.487	
PROPENE	0.990	1.144	1.000	0.980	
PROPENYL BENZENE	0.990	1.217	1.000	0.860	
PROPIONALDEHYDE	0.990	0.813	0.999	0.406	123–38–6
PROPIONIC ACID	0.990	0.066	0.102	0.381	79–09–4
PROPIONITRILE (M)	0.990	0.999	0.999	0.580	107–12–0
PROPYL ACETATE ISO	0.990	0.786	1.000	0.453	108–21–4
PROPYL BUTANOATE	0.990	0.843	1.000	0.475	
PROPYL ETHER	0.990	0.921	1.000	0.716	111–43–3
PROPYL METHANOATE	0.990	0.714	1.000	0.506	
PROPYL PROPANOATE	0.990	0.813	1.000	0.446	
PROPYL THIOURACIL (M)	0.990	0.140	0.140	0.921	51–52–5
PROPYL(-n) ACETATE	0.990	0.773	0.999	0.448	109–60–4
PROPYL(-n) BENZENE	0.990	1.191	1.000	0.781	103–65–1
PROPYL-3-METHOXY PYRAZINE,2-ISO(M)	0.990	0.149	0.149	0.980	25773–40-
PROPYLAMINE	0.563	0.778	0.971	0.249	107–10–8
PROPYLCYCLOPENTANE	0.990	1.105	1.000	0.980	
PROPYLENE	0.990	1.144	1.000	0.980	115–07–1
PROPYLENE CHLOROHYDRIN	0.274	0.338	0.383	0.069	
PROPYLENE OXIDE	0.990	0.841	1.000	0.600	75–56–9
PROPYLENIMINE 1,2 2 methyl aziri	0.609	0.792	0.944	0.239	75–55–8
PROPYN-1-OL 2(PROPARLGYL)	0.550	0.271	0.321	0.225	107–19–7
PROPYNE	0.990	1.200	1.000	0.853	
PYRENE	0.990	0.046	0.036	0.113	129–00–0
PYRIDINE	0.956	0.608	0.600	0.255	110–86–1
PYRROLIDINE	0.198	0.814	0.936	0.072	
QUINALDINE (M)	0.990	0.999	0.999	0.853	91–63–4
RESERPINE (M)	0.990	0.000	0.000	0.648	50–55–5
s ACETYLMERCAPTOSUCCINIC ACID	0.318	0.030	0.050	0.069	
S4CHL.CYCLOHEX.00DIMETH .PHOS.DIT(M)	0.990	0.052	0.052	0.342	
SACCHARIN (M)	0.990	0.133	0.133	0.850	81–07–2
SAFROLE (M)	0.990	0.144	0.144	0.406	94–59–7
sec BUTYLBENZENE	0.990	1.187	1.000	0.860	
SILVEX	0.990	1.106	1.000	0.774	93–72–1
SODIUM DODECYL SULFATE (M)	0.988	0.081	0.081	0.195	151–21–3
SODIUM DODECYLBENZENE SULFONATE (M)	0.908	0.083	0.083	0.121	25155–30-
STREPTOZOTOCIN (M)	0.990	0.092	0.092	0.980	18883–66-
STYRENE	0.990	1.229	1.000	0.800	100–42–5
STYRENE OXIDE	0.990	0.883	0.830	0.341	
SULFIDE (M)	0.990	0.999	0.999	0.649	
TAMARON (METHAMIDIPHOS)	0.306	0.430	0.672	0.091	
TARS(M)	0.990	0.025	0.025	0.642	
t-BUTYL HYDROPEROXIDE	0.497	0.289	0.404	0.199	75–91–2
TERPINEOL, ALPHA	0.990	1.008	0.984	0.473	
tert BUTANOL	0.630	0.856	0.989	0.231	
tert-AMYLBENZENE	0.990	1.173	1.000	0.870	
tert-BUTYLBENZENE	0.990	1.192	1.000	0.855	
TETRACHLOROAQUINONE (M)	0.990	0.102	0.102	0.980	
TETRACHLOROBENZENE(1,2,3,4)	0.990	1.101	1.000	0.700	634–66–2

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
TETRACHLOROBENZENE(1,2,3,5)	0.990	1.101	1.000	0.732	634–90–2
TETRACHLOROBENZENE(1,2,4,5)	0.990	1.101	1.000	0.732	95–94–3
TETRACHLORODIBENZOFURAN (2,3,7,8) (M)	0.990	0.072	0.072	0.332	51207–31-
TETRACHLORODIBENZO-p-DIOXIN(2,3,7,8)	0.990	0.109	0.101	0.173	1746–01–6
TETRACHLOROETHANE(1,1,1,2) (M)	0.990	0.141	0.141	0.459	630–20–6
TETRACHLOROETHANE(1,1,2,2)	0.990	1.015	0.999	0.397	79–34–5
TETRACHLOROETHENE	0.990	1.048	1.000	0.917	127–18–4
TETRACHLOROPHENOL(2,3,4,6)	0.447	1.024	1.000	0.091	58–90–2
TETRACHLOROPHENOL(2,3,5,6)	0.990	0.010	0.010	0.980	935–95–5
TETRACHLOROPROPENE(1,1,2,3) (M)	0.990	0.135	0.135	0.831	10436–39-
TETRADECANE	0.990	1.089	1.000	0.896	629–59–4
TETRAETHYL LEAD	0.990	0.958	0.889	0.980	78–00–2
TETRAETHYLENE GLYCOL (M)	0.892	0.128	0.128	0.117	112–60–7
TETRAETHYLENE PENTANE	0.990	1.183	1.000	0.881	
TETRAETHYLPYROPHOSPHATE (M)	0.990	0.080	0.080	0.980	107–49–3
TETRAFLUOROETHENE	0.990	1.080	1.000	0.980	
TETRAFLUOROMETHANE	0.990	1.037	1.000	0.980	
TETRAHYDROBENZALDEHYDE	0.912	0.635	0.641	0.213	
TETRAHYDROFURAN	0.830	0.860	1.000	0.322	109–99–9
TETRAHYDRONAPHTHALENE,1,2,3,4-(M)	0.887	0.452	0.452	0.794	119–64–2
TETRAHYDROPYRAN	0.980	0.898	1.000	0.381	142–68–7
TETRAHYDROTHIOPHENE	0.990	0.692	1.000	0.566	
TETRALIN	0.990	1.189	1.000	0.632	
TETRANITROMETHANE	0.990	0.267	1.000	0.852	509–14–8
THIOACETAMIDE (M)	0.990	0.999	0.999	0.375	62–55–5
THIOBENZYL ALCOHOL P (M)	0.887	0.588	0.588	0.136	100–53–8
THIOBISETHANE, 1,1'	0.990	0.692	1.000	0.763	
THIOCYANATE (TOTAL AS SCN-) (M)	0.990	0.642	0.642	0.894	NA
THIOMETHANOL (M)	0.990	0.999	0.999	0.499	74–93–1
THIOPHENOL (M)	0.659	0.826	0.826	0.933	108–98–5
THIOPROPIONAMIDE 2 (M)	0.696	0.948	0.948	0.097	
THIOUREA	0.892	0.011	0.024	0.472	62–56–6
THIRAM (M)	0.990	0.105	0.105	0.980	137–26–8
THYMINE (M)	0.990	0.556	0.556	0.806	65–71–4
TOLUENE	0.990	1.215	1.000	0.804	108–88–3
TOLUENE24DIAZOBIS-METATOLUENEDIA(M)	0.986	0.011	0.011	0.188	
TOLUENESULFONYL CHLORIDE	0.604	0.046	0.047	0.068	
TOLUIC ALDEHYDE	0.990	0.513	0.478	0.382	122–78–1
TOLUIDINE (-0)	0.459	0.159	0.152	0.052	95–53–4
TOLUIDINE HYDROCHLORIDE,o-(M)	0.990	0.258	0.258	0.980	636–21–5
TOLUIDINE P	0.850	0.274	0.262	0.208	106–49–0
TOXAPHENE	0.990	0.054	0.050	0.735	8001–35–2
trans 1,4 DIMETHYLCYCLOHEXANE	0.990	1.117	1.000	0.980	
trans 2 BUTENAL	0.387	0.911	1.000	0.267	
trans 2 HEPTENE	0.990	1.121	1.000	0.980	
trans 2 HEXENAL	0.856	0.963	1.000	0.295	
trans 2 OCTENAL	0.990	0.985	0.993	0.381	
trans, trans 2,4 HEXADIENAL	0.233	0.996	1.000	0.151	
TRIBROMOMETHYLPHOSPHATE (M)	0.980	0.052	0.052	0.169	
TRIBUTYL PHOSPHOROTRITHIOATE SSS	0.990	.	.	0.334	78–48–8
TRIBUTYL TIN ACETATE	0.990	0.929	0.980	0.789	
TRIBUTYLPHOSPHATE	0.990	1.073	0.988	0.980	126–73–8
TRICHLORO(1,1,2)TRIFLUO ROETHANE(M)	0.990	0.131	0.131	0.980	76–13–1
TRICHLORO–1,2,2-TRIFLUOROETHANE,1,1	0.990	1.033	1.000	0.980	76–13–1
TRICHLORO-1,3,5-TRIAZINE 2,4,6 (M)	0.990	0.133	0.133	0.552	108–77–0
TRICHLOROANISOLE 2,3,6 (M)	0.990	0.119	0.119	0.980	50375–10–
TRICHLOROBENZENE 1,2,3	0.990	1.114	1.000	0.808	87–61–6
TRICHLOROBENZENE 1,2,4	0.990	1.114	1.000	0.637	120–82–1
TRICHLOROBENZENE 1,3,5	0.990	1.114	1.000	0.877	108–70–3
TRICHLOROBUTANE 1,2,3 (M)	0.990	0.144	0.144	0.980	18338–40–
TRICHLOROETHANE 1,1,1	0.990	1.037	1.000	0.913	71–55–6
TRICHLOROETHANE 1,1,2	0.990	1.025	1.000	0.597	79–00–5
TRICHLOROETHYLENE	0.990	1.053	1.000	0.866	79–01–6
TRICHLOROFLUOROMETHANE	0.990	1.027	1.000	0.968	75–69–4
TRICHLOROPHENOL 2,4,5	0.964	0.111	0.108	0.086	95–95–4
TRICHLOROPHENOL 2,4,6	0.990	0.135	0.132	0.167	88–06–2
TRICHLOROPROPANE 1,1,1	0.990	1.048	1.000	0.897	7789–89–1
TRICHLOROPROPANE(1,1,2)	0.990	1.037	1.000	0.897	598–77–6
TRICHLOROPROPANE(1,2,2)	0.990	1.047	1.000	0.897	3175–23–3
TRICHLOROPROPANE(1,2,3)	0.990	1.048	1.000	0.894	96–18–4
TRICHLOROPROPENE (1,1,2)(M)	0.990	0.228	0.228	0.795	

TABLE 2 OF APPENDIX J.—FR, FM, AND FE [1] VALUES FOR COMPOUNDS WITH HENRY'S LAW CONSTANTS AT 25° C GREATER THAN OR EQUAL TO 0.1 Y/X ATMOSPHERE PER MOLE FRACTION—Continued

Compound	FR	Fm25D	Fm305	Fe [1]	CAS
TRICOSANE N(M)	0.990	0.133	0.133	0.301	629–50–5
TRIETHYLAMINE	0.990	0.937	1.000	0.379	121–44–8
TRIETHYLENE GLYCOL(M)	0.846	0.150	0.150	0.111	112–27–6
TRIETHYLPHOSPHOROTHIOAT E,o,o,o-(M)	0.989	0.126	0.126	0.794	126–68–1
TRIFLUOROETHANE(1,1,1)	0.990	1.059	1.000	0.980	
TRIFLUOROMETHANE	0.990	1.057	1.000	0.980	
TRIFLURALIN	0.990	0.086	0.116	0.291	
TRIISOBUTYLENE	0.990	1.117	1.000	0.980	
TRIISOPROPYLAMINE	0.990	1.026	1.000	0.715	
TRIMELLITIC ANHYDRIDE (M)	0.629	0.129	0.129	0.087	552–30–7
TRIMETHYL BENZENE, 123	0.990	1.200	1.000	0.713	
TRIMETHYL-4-NITROANILINE 2,3,5 (M)	0.990	0.135	0.135	0.831	
TRIMETHYLAMINE	0.990	0.811	1.000	0.464	75–50–3
TRIMETHYLBENZENE (1,3,5)	0.990	1.200	1.000	0.766	108–67–3
TRIMETHYLPENTANE 2,2,4	0.990	1.116	1.000	1.000	540–84–1
TRIMETHYLSILANOL	0.990	0.533	1.000	0.980	
TRINITROBENZENE,sym-(M)	0.990	0.118	0.118	0.712	99–35–4
TRINITROTOLUENE(2,4,6)	0.223	0.004	0.009	0.120	118–96–7
TRIPHENYL PHOSPHINE (M)	0.990	0.094	0.094	0.321	603–35–0
TRIPHENYLMETHANE (M)	0.990	0.103	0.103	0.980	516–73–3
TRIPHENYLPHOSPHINE NICKEL CARBONM)	0.990	0.037	0.037	0.722	
TRIS (1-AZIRIDINYL) PHOSPHINESU(M)	0.990	0.130	0.130	0.379	52–24–4
TRIS (2,3-DIBROMOPROPYL)PHOSPHA(M)	0.990	0.000	0.000	0.980	126–72–7
TRISODIUM NITRILOTRIACETATE (M)	0.990	0.128	0.128	0.980	5064–31–3
TRYPAN BLUE(M)	0.990	0.000	0.000	0.853	72–57–1
URACIL (M)	0.990	0.794	0.794	0.857	66–22–8
URACIL MUSTARD (M)	0.990	0.099	0.099	0.853	66–75–1
UREA	0.990	0.016	0.030	0.582	57–13–6
URETHANE	0.990	0.024	0.039	0.370	51–79–6
VALERIC ACID (M)	0.990	0.963	0.963	0.287	109–52–4
VINYL ACETATE	0.990	0.748	1.000	0.592	108–05–4
VINYL ACETYLENE	0.990	1.232	1.000	0.890	
VINYL BROMIDE	0.990	0.629	1.000	0.849	
VINYL CHLORIDE	0.990	1.081	1.000	0.971	75–01–4
VINYL DIHYDROPYRAN	0.990	0.935	1.000	0.554	
VINYL METHYL ETHER	0.990	0.831	1.000	0.590	
VINYLCYCLOHEXENE 4(M)	0.990	0.860	0.860	0.980	100–40–3
VINYLIDENE CHLORIDE	0.990	1.061	1.000	0.889	75–35–4
XYLENE	0.990	1.206	1.000	0.788	1330–20–7
XYLENE(-m)	0.990	1.206	1.000	0.821	108–38–3
XYLENE(-o)	0.990	1.206	1.000	0.787	95–47–6
XYLENE(-p)	0.990	1.206	1.000	0.824	106–67–9
XYLIDINE dimethylaniline	0.606	0.131	0.124	0.074	
XYLYL CHLORIDE M (M)	0.990	0.310	0.310	0.592	620–19–9
XYLYL CHLORIDE O (M)	0.990	0.310	0.310	0.592	552–45–4

* Molecular structure only approximate.
(M) fraction measured (fm) estimated from Mwt correlation.
[1] The Fe values listed in Table 2 are Fe values for emissions from both the individual drain system and the treatment process. Use these Fe values with Section 2.5.1).

TABLE 3 OF APPENDIX J—FE VALUES FOR EMISSIONS FROM BOTH THE INDIVIDUAL DRAIN SYSTEM AND THE TREATMENT PROCESS

[Use with section 2.5.1]

Henry's Law Constant	Fe Value
0.00025	0.001
0.00051	0.002
0.00076	0.003
0.00127	0.005
0.00178	0.007
0.00254	0.010
0.00381	0.015
0.00508	0.020
0.00635	0.25
0.00762	0.030
0.00890	0.035
0.01017	0.040
0.01144	0.045
0.02327	0.050