

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION

PART 1. GENERAL PROVISIONS

R 336.1122 Definitions; V.

Rule 122. As used in these rules:

(a) "Vacuum-metalizing coatings" means topcoats and basecoats that are used in the vacuum-metalizing process.

(b) "Vacuum-producing system" means any device that creates a pressure below atmospheric, such as a pump or steam ejector with condenser, including hot wells and accumulators.

(c) "Vapor collection system," as it pertains to R 336.1627, means all piping, seals, hoses, connections, pressure-vacuum vents, and any other equipment between and including the delivery vessel and a stationary vessel, vapor processing unit, or vapor holder.

(d) "Very large precipitator" means an electrostatic precipitator that has a specific plate collection area of 600 square feet or more per 1,000 actual cubic feet per minute gas flow.

(e) "Visible emission" means any emissions that are visually detectable without the aid of instruments.

(f) "Volatile organic compound" means any compound of carbon or mixture of compounds of carbon that participates in photochemical reactions, excluding the following materials, all of which have been determined by the United States environmental protection agency to have negligible photochemical reactivity:

(i) Carbon monoxide.

(ii) Carbon dioxide.

(iii) Carbonic acid.

(iv) Metallic carbides or carbonates.

(v) Boron carbide.

(vi) Silicon carbide.

(vii) Ammonium carbonate.

(viii) Ammonium bicarbonate.

(ix) Methane.

(x) Ethane.

(xi) The methyl chloroform portion of commercial grades of methyl chloroform, if all of the following provisions are complied with:

(A) The commercial grade of methyl chloroform is used only in a surface coating or coating line that is subject to the requirements of part 6 or 7 of these rules.

(B) The commercial grade of methyl chloroform contains no stabilizers other than those listed in table 11.

(C) Compliance with the applicable limits specified in part 6 or 7 of these rules is otherwise not technically or economically reasonable.

(D) All measures to reduce the levels of all organic solvents, including the commercial grade of methyl chloroform, from the surface coating or coating line to the lowest reasonable level will be implemented.

(E) The emissions of the commercial grade of methyl chloroform do not result in a maximum ambient air concentration exceeding any of the allowable ambient air concentrations listed in table 11.

(F) The use of the commercial grade of methyl chloroform is specifically identified and allowed by a permit to install, permit to operate, or order of the department.

(G) Table 11 reads as follows:

**TABLE 11**

Commercial Grade of Methyl Chloroform -- Allowable Ambient Air Concentrations

<b>Compound</b>	<b>Ppm<sup>1</sup></b>	<b>Time<sup>2</sup></b>
Methyl chloroform	3.5	1 hour
Tertiary butyl alcohol <sup>3</sup>	1.0	1 hour
Secondary butyl alcohol <sup>3</sup>	1.0	1 hour
Methylal <sup>3</sup>	10.0	1 hour
1,2-butylene oxide <sup>3</sup>	0.028 and 0.00041	1 hour  annual

1. Parts per million, by volume
2. Averaging time period
3. This compound is a stabilizer

(xii) The methyl chloroform portion of commercial grades of methyl chloroform that contain any other stabilizer not listed in table 11 of this rule, if all of the following provisions are complied with:

(A) The commercial grade of methyl chloroform is used only in a surface coating or coating line that is subject to the requirements of part 6 or 7 of these rules.

(B) Compliance with the applicable limits specified in part 6 or 7 of these rules is otherwise not technically or economically reasonable.

(C) All measures to reduce the levels of all organic solvents, including the commercial grade of methyl chloroform, from the surface coating or coating line to the lowest reasonable level will be implemented.

(D) The emissions of any compound in the commercial grade of methyl chloroform that is listed in table 11 of this rule do not result in a maximum ambient air concentration exceeding any of the allowable ambient air concentrations listed in table 11.

(E) The emission of all compounds in the commercial grade of methyl chloroform that are not listed in table 11 is demonstrated to comply with R 336.1901.

(F) The use of the commercial grade of methyl chloroform is specifically identified and allowed by a permit to install, permit to operate, or order of the department.

(xiii) Acetone.

(xiv) Cyclic, branched, or linear completely methylated siloxanes.

(xv) Parachlorobenzotrifluoride.

(xvi) Perchloroethylene.

(xvii) Trichlorofluoromethane (CFC-11).

(xviii) Dichlorodifluoromethane (CFC-12).

(xix) 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113).

(xx) 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114).

(xxi) Chloropentafluoroethane (CFC-115).

(xxii) 1,1-dichloro 1-fluoroethane (HCFC-141b).

(xxiii) 1,1-chloro 1,1-difluoroethane (HCFC-142b).

(xxiv) Chlorodifluoromethane (HCFC-22).

(xxv) 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123).

(xxvi) 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124).

(xxvii) Trifluoromethane (HFC-23).

- (xxviii) Pentafluoroethane (HFC-125).
  - (xxix) 1,1,2,2-tetrafluoroethane (HFC-134).
  - (xxx) 1,1,1,2-tetrafluoroethane (HFC-134a).
  - (xxxi) 1,1,1-trifluoroethane (HFC-143a).
  - (xxxii) 1,1-difluoroethane (HFC-152a).
  - (xxxiii) 3,3-dichloro-1, 1,1,2,2-pentafluoropropane (HCFC-225ca).
  - (xxxiv) 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb).
  - (xxxv) 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee).
  - (xxxvi) Difluoromethane (HFC-32).
  - (xxxvii) Ethyl fluoride (HFC-161).
  - (xxxviii) 1,1,1,3,3,3-hexafluoropropane (HFC-236fa).
  - (xxxix) 1,1,2,2,3-pentafluoropropane (HFC-245ca).
  - (xl) 1,1,2,3,3- pentafluoropropane ( HFC-245ea).
  - (xli) 1,1,1,2,3- pentafluoropropane (HFC-245eb).
  - (xlii) 1,1,1,3,3- pentafluoropropane (HFC-245fa).
  - (xliii) 1,1,1,2,3,3-hexafluoropropane (HFC-236ea).
  - (xliv) 1,1,1,3,3-pentafluorobutane (HFC365mfc).
  - (xlv) Chlorofluoromethane (HCFC-31).
  - (xlvi) 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a).
  - (xlvii) 1-chlor-1-fluoroethane (HCFC-151a).
  - (xlviii) 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C<sub>4</sub>F<sub>9</sub>OCH<sub>3</sub> or HFE-7100).
  - (xlix) 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane.
  - (l) 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C<sub>4</sub>F<sub>9</sub>OC<sub>2</sub>H<sub>5</sub> or HFE-7200).
  - (li) 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane.
  - (lii) Methyl acetate.
  - (liii) Perfluorocarbon compounds that fall into the following classes:
    - (A) Cyclic, branched, or linear, completely fluorinated alkanes.
    - (B) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.
    - (C) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.
    - (D) Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.
  - (liv) Methylene chloride.
  - (lv) 1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C<sub>3</sub>F<sub>7</sub>OCH<sub>3</sub>, HFE-7000).
  - (lvi) 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500).
  - (lvii) 1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea)
  - (lviii) Methyl formate (HCOOCH<sub>3</sub>).
  - (lix) T-butyl acetate is not a volatile organic compound for purposes of volatile organic compound emissions limitations or volatile organic compound content requirements but is a volatile organic compound for purposes of all recordkeeping, emissions reporting, photochemical dispersion modeling and inventory requirements, which apply to volatile organic compounds and shall be uniquely identified in emission reports.
  - (lx) 1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE-7300)
  - (lxi) Dimethyl carbonate
  - (lxii) Propylene carbonate
  - (lxiii) 2,3,3,3-tetrafluoropropene (HFO-1234yf)
  - (lxiv) Trans-1,3,3,3-tetrafluoropropene (HFO-1234ze)
- The methods described in R 336.2004 and R 336.2040 shall be used for measuring volatile

organic compounds for purposes of determining compliance with emission limits. Where such a method also measures compounds with negligible photochemical reactivity, these negligibly-photochemical reactive compounds may be excluded as volatile organic compounds if the amount of such compounds is accurately quantified and such exclusion is approved by the department.

History: 1980 AACS; 1985 AACS; 1988 AACS; 1989 AACS; 1993 AACS; 1997 AACS; 2003 AACS; 2008 AACS; 2012 AACS.