

Environmental Protection Agency

§ 86.708-94

§ 86.704-94 Section numbering; construction.

Section §86.104 of subpart B applies to this subpart.

§§ 86.705-94—86.707-94 [Reserved]

§ 86.708-94 In-use emission standards for 1994 and later model year light-duty vehicles.

Section 86.708-94 includes text that specifies requirements that differ from §86.090-8 of subpart A of this part. Where a paragraph in §86.090-8 is identical and applicable to §86.708-94, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see §86.090-8.” Where a corresponding paragraph of §86.090-8 is not applicable, this is indicated by the statement “[Reserved].”

(a)(1) *Standards.* (i) In-use exhaust emissions from 1994 and later model year light-duty vehicles shall meet all standards in tables H94-3 and H94-4 in the rows designated with the applicable fuel type, according to the implementation schedules in tables H94-1 and H94-2, and shall meet all standards in tables H94-6 and H94-7 in the rows designated with the applicable fuel type, according to the implementation schedules in table H94-5, as follows:

(A)(1)(i) For model years 1994 and 1995, a minimum of the percentage shown in table H94-1 of a manufacturer’s sales of the applicable model year’s

light-duty vehicles shall not exceed the applicable Tier 1₁ standards in table H94-3. The remaining vehicles, if any, shall not exceed the applicable Tier 0 standards in table H94-3.

(ii) For model years 1996 and beyond, a minimum of the percentages shown in table H94-2 of a manufacturer’s sales of the applicable model year’s light-duty vehicles shall not exceed the applicable Tier 1 standards in tables H94-3 and H94-4. The remaining vehicles, if any, shall not exceed the applicable Tier 1₁ standards in table H94-3.

(2) *Particulates.* For in-use exhaust emissions for model years 1994 and later, a minimum of the percentage shown in table H94-5 of a manufacturer’s sales of the applicable model year’s light-duty vehicles shall not exceed the applicable Tier 1 standards in tables H94-6 and H94-7. The remaining vehicles, if any, shall not exceed the applicable Tier 0 standards in table H94-6.

(3) Optionally, compliance with the Tier 1₁ and Tier 1 implementation schedules of this section may be based on the combined sales of light-duty vehicles and light light-duty trucks, if such option was taken for certification as allowed in §86.094-8 and §86.094-9 of subpart A of this part. Vehicles meeting Tier 1₁ in-use standards shall only be combined for this purpose with other vehicles meeting Tier 1₁ standards, and those meeting Tier 1 standards shall only be combined with those meeting the Tier 1 standards.

TABLE H94-1—IMPLEMENTATION SCHEDULE FOR LIGHT-DUTY VEHICLES FOR HCS, CO AND NO_x

Model year	Tier 1 ₁ percentage
1994	40
1995	80
1996	60
1997	20
After 1997	0

TABLE H94-2—IMPLEMENTATION SCHEDULE FOR LIGHT-DUTY VEHICLES FOR HCS, CO AND NO_x

Model year	Tier 1 percentage
1994	0
1995	0
1996	40
1997	80
After 1997	100

TABLE H94-3—INTERMEDIATE USEFUL LIFE¹ STANDARDS (G/MI) FOR LIGHT-DUTY VEHICLES FOR HCS, CO AND NO_x

Fuel	Standards	THC	NMHC	THCE	NMHCE	CO	NO _x
Gasoline	Tier 0	0.41				3.4	1.0
Gasoline	Tier 1 ₁	0.41	0.32			3.4	0.4
Gasoline	Tier 1	0.41	0.25			3.4	0.4
Diesel	Tier 0	0.41				3.4	1.0
Diesel	Tier 1 ₁	0.41	0.32			3.4	1.0
Diesel	Tier 1	0.41	0.25			3.4	1.0
Methanol	Tier 0			0.41		3.4	1.0
Methanol	Tier 1 ₁			0.41	0.32	3.4	0.4
Methanol	Tier 1			0.41	0.25	3.4	0.4
Natural Gas	Tier 0		0.34			3.4	1.0
Natural Gas	Tier 1 ₁		0.32			3.4	0.4
Natural Gas	Tier 1		0.25			3.4	0.4
LPG	Tier 0	0.41				3.4	1.0
LPG	Tier 1 ₁	0.41	0.32			3.4	0.4
LPG	Tier 1	0.41	0.25			3.4	0.4

¹The applicable useful life is 5 years or 50,000 miles, whichever first occurs.

TABLE H94-4—FULL USEFUL LIFE¹ STANDARDS (G/MI) FOR LIGHT-DUTY VEHICLES FOR HCS, CO AND NO_x

Fuel	Standards	THC	NMHC	THCE	NMHCE	CO	NO _x
Gasoline	Tier 0						
Gasoline	Tier 1		0.31			4.2	0.60
Diesel	Tier 0						
Diesel	Tier 1		0.31			4.2	1.25
Methanol	Tier 0						
Methanol	Tier 1				0.31	4.2	0.60
Natural Gas	Tier 0						
Natural Gas	Tier 1		0.31			4.2	0.60
LPG	Tier 0						
LPG	Tier 1		0.31			4.2	0.60

¹The applicable useful life is 10 years or 100,000 miles, whichever first occurs, except that no enforcement testing will be done beyond 7 years or 75,000 miles, whichever first occurs.

TABLE H94-5—IMPLEMENTATION SCHEDULE FOR LIGHT-DUTY VEHICLES FOR PM

Model year	Tier 1 percentage
1994	40
1995	80
After 1995	100

TABLE H94-6—INTERMEDIATE USEFUL LIFE¹ STANDARDS (G/MI) FOR LIGHT-DUTY VEHICLES FOR PM

Fuel	Standards	PM
Gasoline	Tier 0	
Gasoline	Tier 1	0.08
Diesel	Tier 0	0.20
Diesel	Tier 1	0.08
Methanol	Tier 0	² 0.20
Methanol	Tier 1	10.08
Natural Gas	Tier 0	² 0.20
Natural Gas	Tier 1	0.08
LPG	Tier 0	² 0.20
LPG	Tier 1	0.08

¹The applicable useful life is 5 years or 50,000 miles, whichever first occurs.

²Applicable only to diesel-cycle vehicles.

TABLE H94-7—FULL USEFUL LIFE¹ STANDARDS (G/MI) FOR LIGHT-DUTY VEHICLES FOR PM

Fuel	Standards	PM
Gasoline	Tier 0	
Gasoline	Tier 1	0.10
Diesel	Tier 0	

TABLE H94-7—FULL USEFUL LIFE¹ STANDARDS (G/MI) FOR LIGHT-DUTY VEHICLES FOR PM—
Continued

Fuel	Standards	PM
Diesel	Tier 1	0.10
Methanol	Tier 0 .....	.....
Methanol	Tier 1	0.10
Natural Gas	Tier 0 .....	.....
Natural Gas	Tier 1	0.10
LPG	Tier 0 .....	.....
LPG	Tier 1	0.10

¹The applicable useful life is 10 years or 100,000 miles, whichever first occurs, except that no enforcement testing will be done beyond 7 years or 75,000 miles, whichever first occurs.

(B)(1)(i) Sales percentages for the purposes of determining compliance with paragraph (a)(1)(i) of this section shall be based on total actual U.S. sales of light-duty vehicles of the applicable model year by a manufacturer to a dealer, distributor, fleet operator, broker, or any other entity which comprises the point of first sale. If the option of paragraph (a)(1)(i)(A)(3) is taken, such sales percentages shall be based on the total actual combined U.S. sales of light-duty vehicles and light light-duty trucks of the applicable model year by a manufacturer to a dealer, distributor, fleet operator, broker, or any other entity which comprises the point of first sale.

(ii) The manufacturer may petition the Administrator to allow actual volume produced for U.S. sales to be used in lieu of actual U.S. sales for purposes of determining compliance with the implementation schedule sales percentages of tables H94-1, H94-2 and H94-5 of this section. Such petition shall be submitted within 30 days of the end of the model year to the Manufacturers Operations Division. For the petition to be granted, the manufacturer must establish to the satisfaction of the Administrator that actual production volume is functionally equivalent to actual sales volume.

(iii) The vehicles that are counted toward the implementation schedule sales percentage, or toward the total on which such percentage is based, for certification purposes as prescribed by §86.094-8 (a)(1)(i)(B)(1)(iii) of subpart A of this part, shall be the same vehicles that are counted toward the implementation schedule sales percentage, or the total on which it is based, for in-use purposes.

(iv) Small volume manufacturers, as defined in §86.092-14 (b) (1) and (2), are exempt from the implementation schedules of tables H94-1 and H94-2 of this section for model years 1994 through 1997, and from the implementation schedule of table H94-5 of this section for model years 1994 and 1995. For small volume manufacturers, Tier 0 standards of table H94-6 continue to apply until model year 1996 and Tier 0 standards of table H94-3 continue to apply until model year 1998, when one hundred percent compliance with the Tier 1 standards of tables H94-3, H94-4, H94-6, and H94-7 is required. This exemption does not apply to small volume engine families as defined in §86.092-14 (b)(5).

(2)(i) For 1994 and 1995 model year light-duty vehicles, the engine families which comprise the required implementation schedule percentage of sales meeting Tier 1 standards for HCs, CO, and NO_x, for purposes of certification, shall be the same engine families which comprise the required implementation schedule percentage of sales meeting the interim in-use standards (labeled "Tier 1_i" in the tables of in-use standards) for in-use purposes.

(ii) For 1996 and 1997 model year light-duty vehicles the engine families which comprise the required implementation schedule percentage of sales meeting interim in-use standards (labeled "Tier 1_i" in the tables of in-use standards) and final in-use standards (labeled "Tier 1" in the tables of in-use standards) respectively, for HCs, CO, and NO_x, for in-use purposes, shall be designated by the manufacturer at the time of Application for Certification.

(iii) For 1994 and 1995 model year light-duty vehicles, the engine families

which comprise the required implementation schedule percentage of sales meeting Tier 1 standards, for PM, for purposes of certification, shall be the same engine families which comprise the required implementation schedule percentage of sales meeting the final in-use standards (labeled "Tier 1" in the tables of in-use standards) for PM for in-use purposes.

(3) The manufacturer must state at the time of Application for Certification, based on projected U.S. sales or projected production for U.S. sale, which families will be used to attain the required implementation schedule sales percentages for in-use purposes.

(4) A manufacturer cannot use one set of engine families to meet its in-use intermediate useful life standards and another to meet its in-use full useful life standards. The same families which are used to meet the intermediate useful life standards will be required without deviation to meet the corresponding full useful life standards.

(ii) Engine families participating in the particulate averaging program as specified in §86.094-8 (a)(1)(ii) shall be subject, for purposes of in-use compliance, to the particulate family emission limit determined for that engine family for certification purposes, in lieu of the appropriate particulate standard shown in the tables of in-use standards in this section.

(iii) CST emissions from model year 1996 and later gasoline-fueled Otto-cycle light-duty vehicles measured and calculated in accordance with subpart O of this part may not exceed the standards listed in paragraphs (a)(1)(iii) (A) and (B) of this section.

(A) Hydrocarbons: 220 ppm as hexane.

(B) Carbon monoxide: 1.2 percent.

(2) The standards set forth in paragraph (a)(1)(i) of this section refer to

the exhaust emitted over a driving schedule as set forth in subpart B of this part and measured and calculated in accordance with those procedures. The test weight basis for light-duty vehicles, for the purposes of determining equivalent test weight as prescribed in §86.129-94, shall be loaded vehicle weight.

(3) The standards set forth in paragraph (a)(1)(iii) of this section refer to the exhaust emitted during the CST as set forth in subpart O of this part and measured and calculated in accordance with those provisions.

(b) The provisions of §86.090-8(b) through (h) of subpart A of this part apply to this section. The provisions of §86.096-8(i) through (k) of subpart A of this part apply to this section.

[56 FR 25781, June 5, 1991, as amended at 57 FR 31922, July 17, 1992; 58 FR 33211, June 16, 1993; 58 FR 58424, Nov. 1, 1993; 59 FR 33913, July 1, 1994; 59 FR 48515, Sept. 21, 1994]

§ 86.708-98 In-use emission standards for 1998 and later model year light-duty vehicles.

Section 86.708-98 includes text that specifies requirements that differ from §86.090-8 of subpart A of this part. Where a paragraph in §86.090-8 is identical and applicable to §86.708-98, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see §86.090-8." Where a corresponding paragraph of §86.090-8 is not applicable, this is indicated by the statement "[Reserved]."

(a)(1)(i) In-use exhaust emissions from 1998 and later model year light-duty vehicles shall meet all standards in tables H98-1 and H98-2 in the rows designated with the applicable fuel type.

TABLE H98-1—INTERMEDIATE USEFUL LIFE¹ STANDARDS (G/MI) FOR LIGHT-DUTY VEHICLES

Fuel	THC	NMHC	THCE	NMHCE	CO	NO _x	PM
Gasoline	0.41	0.25	.....	.....	3.4	0.4	0.08
Diesel	0.41	0.25	.....	.....	3.4	1.0	0.08
Methanol .....	.....	.....	0.41	0.25	3.4	0.4	0.08
Natural Gas .....	.....	0.25	.....	.....	3.4	0.4	0.08
LPG	0.41	0.25	.....	.....	3.4	0.4	0.08

¹The applicable useful life is 5 years or 50,000 miles, whichever first occurs.