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an alternative useful life period assigned by the Administrator under the provisions of paragraph (f) of § 86.090-21.

(f) The useful-life period for purposes of the emissions defect warranty and emissions performance warranty shall be a period of 5 years/50,000 miles whichever first occurs, for light-duty trucks, Otto cycle heavy-duty engines and light heavy-duty diesel engines. For all other heavy-duty diesel engines the aforementioned period is 5 years/100,000 miles, whichever first occurs. However, in no case may this period be less than the manufacturer's basic mechanical warranty period for the engine family.

[55 FR 30612, July 26, 1990, as amended at 60 FR 34334, June 30, 1995; 62 FR 31233, June 6, 1997]

§ 86.090-3 Abbreviations.

(a) The abbreviations in § 86.078-3 remain effective. The abbreviations in this section apply beginning with the 1990 model year.

(b) The abbreviations in this section apply to this subpart, and also to subparts B, E, F, M, N, and P of this part, and have the following meanings:

- DNPH—2,4-dinitrophenylhydrazine.
- FEL—Family emission limit.
- GC—Gas chromatograph.
- HPLC—High-pressure liquid chromatography.
- MeOH—Methanol (CH₃OH).
- Mg—Megagram(s) (1 million grams)
- MJ—Megajoule(s) (1 million joules)
- THCE—Total Hydrocarbon Equivalent
- UV—Ultraviolet.

[55 FR 30613, July 26, 1990, as amended at 60 FR 34335, June 30, 1995]

§ 86.090-5 General standards; increase in emissions; unsafe conditions.

(a)(1) Every new motor vehicle (or new motor vehicle engine) manufactured for sale, sold, offered for sale, introduced, or delivered for introduction to commerce, or imported into the United States for sale or resale which is subject to any of the standards prescribed in this subpart shall be covered by a certificate of conformity issued pursuant to §§ 86.090-21, 86.090-22, 86.090-23, 86.090-29, 86.090-30, 86.079-31, 86.079-32, 86.079-33, and 86.082-34.

(2) No heavy-duty vehicle manufacturer shall take any of the actions

specified in section 203(a)(1) of the Act with respect to any Otto-cycle or diesel heavy-duty vehicle which uses an engine which has not been certified as meeting applicable standards.

(3) Notwithstanding paragraphs (a) (1) and (2) of this section, a light or heavy duty motor vehicle equipped with an engine certified to the nonroad provision of 40 CFR part 89 may be sold, offered for sale or otherwise introduced into commerce by a motor vehicle manufacturer to a secondary manufacturer if the motor vehicle manufacturer obtains written assurance from the secondary manufacturer that such vehicle will be converted to a nonroad vehicle or to a piece of nonroad equipment, as defined in 40 CFR part 89, before title is transferred to an ultimate purchaser. Failure of the secondary manufacturer to convert such vehicles to nonroad vehicles or equipment prior to transfer to an ultimate purchaser shall be considered a violation of section 203(a) (1) and (3) of the Clean Air Act.

(b)(1) Any system installed on or incorporated in a new motor vehicle (or new motor vehicle engine) to enable such vehicle (or engine) to conform to standards imposed by this subpart.

(i) Shall not in its operation or function cause the emission into the ambient air of any noxious or toxic substance that would not be emitted in the operation of such vehicle (or engine) without such system, except as specifically permitted by regulation; and

(ii) Shall not in its operation, function or malfunction result in any unsafe condition endangering the motor vehicle, its occupants, or persons or property in close proximity to the vehicle.

(2) In establishing the physically adjustable range of each adjustable parameter on a new motor vehicle (or new motor vehicle engine), the manufacturer shall ensure that, taking into consideration the production tolerances, safe vehicle driveability characteristics are available within that range, as required by section 202(a)(4) of the Clean Air Act.

(3) Every manufacturer of new motor vehicles (or new motor vehicle engines)

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subject to any of the standards imposed by this subpart shall, prior to taking any of the actions specified in section 203(a)(1) of the Act, test or cause to be tested motor vehicles (or motor vehicle engines) in accordance with good engineering practice to ascertain that such test vehicles (or test engines) will meet the requirements of this section for the useful life of the vehicle (or engine).

[54 FR 14460, Apr. 11, 1989, as amended at 61 FR 58106, Nov. 12, 1996]

§ 86.090-8 Emission standards for 1990 and later model year light-duty vehicles.

(a)(1) Exhaust emissions from 1990 and later model year light-duty vehicles shall not exceed (compliance with these standards is optional for 1990 model year methanol-fueled vehicles):

(i)(A) *Hydrocarbons (for petroleum-fueled Otto-cycle and diesel vehicles)*. 0.41 gram per vehicle mile (0.26 gram per vehicle kilometer).

(B) *Total Hydrocarbon Equivalent (for methanol-fueled Otto-cycle and diesel vehicles)*. 0.41 gram per vehicle mile (0.26 gram per vehicle kilometer).

(ii) *Carbon monoxide*. 3.4 grams per vehicle mile (2.1 grams per vehicle kilometer).

(iii) *Oxides of nitrogen*. 1.0 gram per vehicle mile (0.63 gram per vehicle kilometer).

(iv) *Particulate (for diesel vehicles only)*. (A) 0.20 gram per vehicle mile (0.12 gram per vehicle kilometer).

(B) A manufacturer may elect to include all or some of its diesel light-duty vehicle engine families in the appropriate particulate averaging program (petroleum or methanol), provided that vehicles produced for sale in California or in designated high-altitude areas may be averaged only within each of these areas. Averaging is not permitted between fuel types. If the manufacturer elects to average light-duty vehicles and light-duty trucks together in the appropriate particulate averaging program, its composite particulate standard applies to the combined set of light-duty vehicles and light-duty trucks included in the average and is calculated as defined in § 86.090-2.

(2) The standards set forth in paragraph (a)(1) 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.

(b) Fuel evaporative emissions from 1990 and later model year light-duty vehicles shall not exceed (compliance with these standards is optional for 1990 model year methanol-fueled engines):

(1) *Hydrocarbons (for gasoline-fueled vehicles)*. 2.0 grams per test.

(2) *Total Hydrocarbon Equivalent (for methanol-fueled vehicles)*. 2.0 grams carbon per test.

(3) The standards set forth in paragraphs (b) (1) and (2) of this section refers to a composite sample of the fuel evaporative emissions collected under the conditions set forth in subpart B of this part and measured in accordance with those procedures.

(c) No crankcase emissions shall be discharged into the ambient atmosphere from any 1990 and later model year Otto-cycle or methanol-fueled diesel light-duty vehicle.

(d)-(f) [Reserved]

(g) Any 1990 and later model year light-duty vehicle that a manufacturer wishes to certify for sale shall meet the emission standards under both low- and high-altitude conditions as specified in § 86.082-2, except as provided in paragraphs (h) and (i) of this section. Vehicles shall meet emission standards under both low- and high-altitude conditions without manual adjustments or modifications. Any emission control device used to meet emission standards under high-altitude conditions shall initially actuate (automatically) no higher than 4,000 feet above sea level.

(h) The manufacturer may exempt 1990 and later model year vehicles from compliance at high altitude with the emission standards set forth in paragraphs (a) and (b) of this section if the vehicles are not intended for sale at high altitude and if the requirements of paragraphs (h) (1) and (2) of this section are met.

(1) A vehicle configuration shall only be considered eligible for exemption under paragraph (h) of this section if the requirements of either paragraph