CHAPTER V

CONSTRUCTION,EQUIPMENTANDMAINTENANCEOF MOTOR VEHICLES

Preliminary

91. Definitions.—In this Chapter, unless the context otherwise requires,—

(a) "class label", in relation to any dangerous or hazardous goods, means the class label specified in column 3 of the Table to rule 137;
(b) "consignor", in relation to dangerous or hazardous goods intended for transportation by a goods carriage, means the owner of such dangerous or hazardous goods;
(c) "dangerous or hazardous goods", means the goods of dangerous or hazardous nature to human life specified in Tables I, II, and III to rule 137;
(d) "emergency information panel", means the panel specified in rule 134;
(e) "primary risk", in relation to any dangerous or hazardous goods, means the most potent risk which such goods give rise to;
(f)"subsidiary risk", in relation to any dangerous or hazardous goods, means the subsidiary risk which such goods are likely to give rise to in addition to the primary risk.

92. General.—(1)No person shall use or cause or allow to be used in any public place any motor vehicle which does not comply with the provisions of this Chapter:

[28][Provided that no thing contained in this rule shall apply to vehicles manufactured prior to the coming into force of the Central Motor Vehicles (Amendment) Rules, 1993.]

1. Nothing in this rule shall apply to a motor vehicle—

(a) Which has been damaged in an accident or to a vehicle stopped or impeded owing to shortage of fuel or other temporary defects while at the place at which the accident or defect occurred;

(b) which is defective or damaged and is being removed to the nearest place of repair or disposal; or

(c) which is more than fifty years old from the date of its registration and is being driven for taking part in a vintage car rally:

Provided that where a motor vehicle can no longer remain under the effective control of the person driving, the same shall not be used in a public place except by towing.

[29]*[Explanation.*—for the purposes of this rule," motor vehicle" includes construction equipment vehicle.]

30[(3) Testing of components conforming to standards in lieu of Indian Standards:

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28 Inserted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
29 Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).
30 Inserted by G.S.R. 214(E), dated 18-3-1999 (w.e.f. 18-3-1999).

Whenever a part, component or assembly is used in a vehicle complying with standards in lieu of those notified in these rules such as an international standard (for example, EEC/ECE/IEC/ISO or such other standards) or a foreign national standard, permission for use of such parts, component or assembly complying with such standards shall be approved by the Central Government.

In such cases, the compliance of parts, components or assemblies to such international or foreign national standards will be established for the purpose of rule1 26, by a certificate of compliance issued by an authorized certifying agency or by an accredited certifying agency of the country of origin for such international or foreign national standards and vetted by a testing agency as referred to in rule 126.]

Overall dimension

93. Overall dimension of motor vehicles.—(1)The overall width of a motor vehicle, measured at right angles to the axis of the motor vehicle between perpendicular planes enclosing the extreme points,[31][shall not exceed 2.6 metres.]

32[** *]

32[* * *]

[33][Provided further that the overall width of an E-rickshaw and E-chart shall not exceed 1.0 metres.]

Explanation.—For purposes of this rule, a rear-view mirror, or guard rail or a direction indicator [31][rub-rail (rubber beading) having maximum thickness of 20 mm on each side of the body] shall not be taken into consideration in measuring the overall width of a motor vehicle.

34[Provided that the overall width of a quadricycle shall not exceed 1.5 metres.]

[35][(1-A) The overall width of a construction equipment vehicle, measured at right angles to the axis of the construction equipment vehicle between perpendicular planes enclosing the extreme points, shall not exceed 3 metres while in the travel mode and such construction equipment vehicle [36][shall be painted by yellow and black zebra stripes on the portion of the width that exceed 2.6 metres] on the front and rear sides duly marked for night time driving/parking suitably by red lamps at the front and rear:]

[37][Provided that the zebra stripes need not be used on attachments.]

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31 Substituted by G.S.R. 221(E), dated 28-3-2001 (w.e.f. 28-3-2001).

32 Cls. (i) and (ii) omitted by G.S.R. 221 (E), dated 28-3-2001 (w.e.f. 28-3-2001).

33 Inserted by G.S.R. 709(E), dated 8-10-2014 (w.e.f. 8-10-2014).

34. Inserted by G.S.R.99(E), dated 19-2-2014 (w.e.f. 19-2-2014).

35. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).

36 Substituted by G.S.R. 116(E), dated 27-2-2002 (w.e.f. 27-8-2002).

37. Inserted by G.S.R. 116(E), dated 27-2-2002 (w.e.f. 27-8-2002).

37a[(1-B) The overall width of a combine harvester measured at right angles to the axis of the combine harvester between perpendicular planes enclosing the extreme points shall not exceed 3.3 meters while in the travel mode; and such combine harvesters shall be painted by yellow and black zebra stripes on the portion of the width that exceeds 2.6 meters on the front; and rear sides duly marked for night time driving and parking suitably by white or amber lamps at the front and red lamps at the rear:

Provided that the zebra stripes need not be used on attachments, if any.

(1-C) The overall width of modular hydraulic trailer, measured at right angles to the axis of the modular hydraulic trailer between perpendicular planes enclosing the extreme points shall not exceed three metres.]

37b[(2)The overall length of a motor vehicle other than a trailer shall not exceed—

(i) In the case of motor vehicle other than transport vehicle having not more than two axles, 6.5 metres;

(ii) In the case of transport vehicle with rigid frame having two or more axles, 12 metres;

(iii) In the case of articulated vehicles having more than two axles, 16 metres;

(iv) in the case of truck-trailer or tractor-trailer combination,18 metres;

(v) in the case of 3 axle passenger transport vehicles, 15 metres;

37a[(va) in the case of a puller tractor having three or more axles, ten meters;

(vb) in the case of modular hydraulic trailer, any single module with maximum eight axle rows shall not exceed nineteen metres;]

(vi) in the case of single articulated (vestibule type) passenger transport vehicle, 18 metres (Please see the conditions given in note below);

(vii) in the case of double articulate passenger transport vehicles, 25 metres (Please see the conditions given in note below).

37c[(viii) in the case of quadricycle, 3 metres for passenger vehicle and 3.7 meter for goods vehicle.]

37c[(ix) in the case of E-rickshaw and E-cart, shall not exceed 2.8 metres.]

Note.—In the case of single articulated passenger transport vehicles of 18 metres length and double articulated passenger transport vehicles upto 25 metres, permission of the State Government shall be obtained regarding their plying on selected routes depending upon local road conditions, width, manoeuvrability of the vehicle in traffic, as deemed fit. These passenger transport vehicles will also be required to have a closed circuit TV System for proper visibility in and around the passenger transport vehicle by the driver to maintain safety. Intercom system shall also be provided in such passenger transport vehicle. In addition, the standing passenger will be allowed only *on* the lower deck of double articulated passenger transport vehicle.]

37a.Inserted by G.S.R.212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

37b. Substituted by G.S.R. 221(E), dated 28-3-2001 (w.e.f. 28-3- 2001).

37c. Inserted by G.S.R.709(E), dated 8-10-2014 (w.e.f. 8-10-2014).

(3) In the case of an articulated vehicle or a tractor-trailer combination specially constructed and used for the conveyance of individual load of exceptional length,—

(i) If all the wheels of the vehicle are fitted with pneumatic tyres, or

(ii) If all the wheels of the vehicle are not fitted with pneumatic tyres, so long as the vehicle is not driven at a speed exceeding twenty-five kilometres per hour, the overall length shall not exceed 18 metres.

Explanation.—For the purposes of this rule" overall length" means the length of the Vehicle measured between parallel planes passing through the extreme projection points of the vehicle exclusive of—

(i) a starting handle;

(ii) any hood when down;

(iii) any fire-escape fixed to a vehicle;

(iv) any post office letter-box, the length of which measured parallel to the axis of the vehicle, does not exceed 30 centimetres;

(v) any ladder used for loading or unloading from the roof of the vehicle or any tail or indicator lamp or number plate fixed to a vehicle;

(vi) any spare wheel or spare wheel bracket or bumper fitted to a vehicle;

(vii) any towing hook or other fitment which does not project beyond any fitment covered by clauses *(iii)* to *(vi).*

[38][(3-A) [38a][The overall length of the construction equipment vehicle and combine harvester], in travel shall not exceed 12.75 metres:

Provided that in the case of construction equipment vehicle with more than two axles, the length shall not exceed 18 metres.

[38b][Provided further that in case of combine harvester exclusively used for harvesting sugarcane, the overall length in travel shall not exceed 15 metres.]

Explanation.—For the purposes of this sub-rule" overall length" means the length of the vehicle measured between parallel planes through the extreme projection points of the vehicle, exclusive of—

(i) any fire-escape fixed to a vehicle;

(ii) any ladder used by the operator to board or alight the vehicle;

(iii) any tailor indicator lamp or number plate fixed to a vehicle;

(iv) any sphere wheel or sphere wheel bracket or bumper fitted to a vehicle;

(v) any towing hook or other fitments;

(vi) any operational attachment on front, rear or carrier chassis of construction equipment vehicle in travel mode.]

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38. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).

38a. Substituted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

[38b][(3-B) The overall length of puller tractor and modular hydraulic trailer combination shall not exceed 29 metres:

Provided that movement of larger combinations with more than eight axle lines shall be subject to prior approval of the concerned authorities.]

(4) The overall height of a motor vehicle measured from the surface on which the vehicle rests,—

(i) in the case of a vehicle other than a double-decked [39][transport vehicle], shall not exceed 3.8 metres;

[39][(ii)in the case of a double decked transport vehicle, shall not exceed 4.75 metres;

(ii-a) in the case of tractor-trailer goods vehicle, shall not exceed 4.20 metres;]

[38b[(ii-b) in the case of modular hydraulic trailer or combination of such modular hydraulic trailers, shall not exceed 4.75 metres;]

(iii)[40][in the case of a laden trailer carrying ISO series 1 Freight Container or in the case of fabricated containerized motor vehicle, shall not exceed 4.52 metres]:

Provided that the provisions of clauses (i) to *(iii)* shall not apply to fire-escape tower wagons and other special purpose vehicles exempted by general or special order of registering authority.

[40a[(iv) in the case of quadricycle, shall not exceed 2.5 metres.]

[40b][(v) in the case of E-rickshaw and E-cart, shall not exceed 1.8 metres.]

[41[(4-A) The overall height of a construction equipment vehicle [41a][or combine harvester] measured from the surface on which the vehicle rests shall not exceed 4.75 metres, while in the travel mode:

Provided that the provisions of this sub-rule shall not apply to any other special purpose attachment to the construction equipment vehicles [41a][or combine harvester] exempted by general or special order of the registering authority.]

(5) The overhang of a tractor [41a][or puller tractors] shall not exceed 1.85 metres.

[42[(6) The overhang of the motor vehicle [43][other than a [43a][tractor, construction equipment vehicle and combine harvester]] shall not exceed 60% of the wheel base.

Explanation I. – For the purpose of this rule "wheel base" means,-

(a) In the case of vehicles with only two axles, the distance measured horizontally and parallel to the longitudinal axis of the vehicle, between the centre points of the front axle and rear axle;

38b. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

39. Substituted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 16-9-2006).

40. Cl. (iii) substituted by G.S.R. 276(E), dated 10-4-2007 (w.e.f. 10-4-2007).

40a. Inserted by G.S.R. 99(E), dated 19-2-2014 (w.e.f. 1-10-2017).

40b. Substituted by G.S.R. 709(E), dated 8-10-2014).

41. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).

41a. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

42. Substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).

43. Substituted by G.S.R. 642(E), dated 28-7-2000, for "other than a tractor" (w,e,f, 28-7-2000).

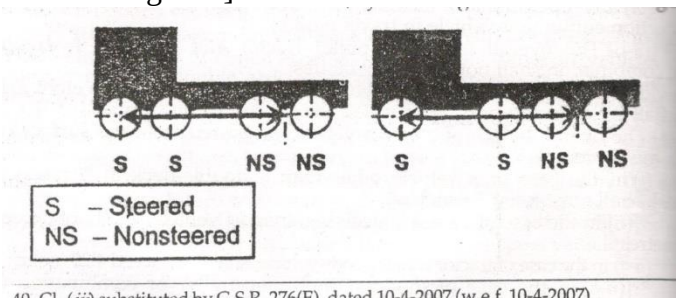
43a. Substituted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

(b) In case of vehicle having only three axles, and the front axles is only the steered axle, the distance measured horizontally and parallel to longitudinal axis of the vehicle between the centre of the front axle and centre point between the two rear axles;]

[44][(c) in case of vehicles having more than three axles, and fitted with or without retractable axle, wheelbase shall be the distance measured between the centre of the front-most axle and the centre point of rear combination of non-steered axles.

Note.- (i) "retractable axle" means an axle which can be raised or lowered by the axle-lift device in accordance with first indent;

"Axle-lift device' means a device permanently fitted to a vehicle for the purpose of reducing or increasing the load on the axle (S), according to the loading conditions of the vehicle, either by raising the wheels clear-off the ground or lowering them to the ground or without raising the wheels of the ground (for Ex. In the case of Air suspension systems, or other system) in order to reduce the wear on the tyres when the vehicle is not fully laden, or make starting (moving of) on slippery ground easier for motor vehicles or vehicle combinations by increasing the load on the driving axle].



45[Explanation II].-For the purpose of this rule, "overhang" means the distance measured horizontally and parallel to the longitudinal axis of the vehicles between two vertical planes at right angles to such axis passing through the two points specified hereunder:

(A) The rearmost point of the vehicle exclusive of-

(i) any hood when down;

(ii) any post office letter-box, the length of which measured parallel to the longitudinal axis of the vehicle, does not exceed thirty centimetres;

(i) any ladder forming part of a turn-table fire-escape fixed to a vehicle;

(ii) any ladder used when the vehicle is at rest for loading or unloading from the roof of the vehicle, or any tail lamp or number plate fixed to a vehicle;

(iii) any spare wheel or spare wheel bracket fitted to a vehicle;

(iv) any luggage carrier fitted to a motor vehicle constructed solely for carriage of passengers and their effects and adapted to carry not more than seven passengers exclusive of the driver;

(v) any towing hook or other fitment which does not project beyond any fitment mentioned in clauses (ii) to (vi);

46[(viii) any mounted implement on a 3-point linkage of a tractor:]

Provided that in the case of a stage carriage:-

(a) The projection of any bumper or advertisement panel fitted at the rear of the vehicle shall not exceed fifteen centimetres;

(b) The projection in respect of an advertisement panel shall not be such as to obstruct either the vision from the rear view mirror or project through the emergency exit at the rear or both;

(B) (i) In the case of a vehicle having only two axles, one of which is not a steering axle, the centre point of that axle; or

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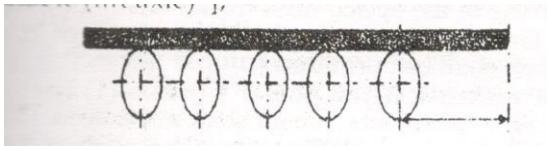
44. Substituted by G.S.R. 625(E), dated 8-8-2012 (w.e.f. 8-8-2012).
45. Renumbered by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
46. Inserted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).

[47][(ii) in the case of a vehicle having only three axles and the front axle is the only steering axle, the centre point of the rearmost axle, irrespective of rear axle(s) being "fixed" or "retractable (lift axle)"];

(iii) in the case of any vehicle registered in India before the commencement of these rules it shall suffice if the overhang does not exceed 7/24ths of the overall length of the vehicle;

[47][(iv) in the case of a vehicle having only three axles where two front axles are steering axles, the centre point of the rearmost axle, irrespective of rear axle(s) being "fixed" or "retractable (lift axle)"];

[47][(v) in the case of a vehicle having four or more than four axles; the centre point of the rearmost axle, irrespective of rear axle(s) being "fixed" or "retractable (lift axle)"];



(vi) in any other case, a point situated on the longitudinal axis of the vehicle such that a line drawn from it at right angle to that axis will pass through the centre of the minimum turning circle of the vehicle.

[48][(6-A) The overhang of the construction equipment vehicle 48a [or combine harvester] shall not exceed 7.5 metres in front or rear while in the travel mode:

[48a] [Provided that in case of a combine harvester exclusively used for harvesting sugarcane, the overhang shall not exceed 8.5 meters in rear while in travel mode.]

Explanation.- For the purpose of this sub-rule, "overhang" means the length/height measured horizontally and parallel to the longitudinal axis of the construction equipment vehicle [49][or combine harvester] between two vertical planes at right angles to such axis passing through-

(i) the frontmost point of the vehicle and the centre point of the front axle, for the front overhang,

(ii) The rearmost point of the vehicle and centre point of the rear axle, for the rear overhang,

exclusive of the parts or fitments mentioned at items (i) to (vi) of the Explanation to sub-rule (3-A).]

[49a][(7)] No part of the vehicle other than a direction indicator, when in operation, or a driving mirror, shall project laterally more than 355 millimetres beyond the centre line of the rear wheels, in the case of a single rear wheels or more than 152 millimetres beyond the extreme outer edge of the outer tyres, in the case of dual rear wheels:

[50][***]

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47. Substituted by G.S.R. 625(E), dated 8-8-2012 (w.e.f. 8-8-2012).
48. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).
48a. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

49. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).
49a. Renumbered by G.S.R. 338(E), dated 26-3-1993(w.e.f. 26-3-1993).
50. Proviso omitted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).

Provided that the State Government or any authority authorized in this behalf by the State Government, if it is satisfied that it is necessary because of the nature of any road or bridge or in the interest of public safety, may prohibit or restrict the operation of a motor vehicle in a specified route or area unless such vehicle complies with the requirements specified by the State Government for such route or area.

[50a][(7-A) No part of the construction equipment vehicle 49[or combine harvester] in travel mode other than a direction indicator, or a driving mirror, shall project laterally more than 300 millimetres beyond the extreme outer edge of the tyres or wheel drums regardless of single or dual tyres or rollers.]

[49][(8)]No motor vehicle shall be loaded in such a manner that the load or any part thereof extends,-

(i) laterally beyond the side of the body;
(ii) to the front beyond the foremost part of the load body of the vehicle;
(iii) to the rear beyond the rear most part of the vehicle;
(iv) to a height beyond the limits specified in sub-rule(4):
[51][* * *]

52[93-A. Overall dimension for agricultural tractors.—(1) The overall width of the agricultural tractor shall not exceed 2.6 metres.

(2) The overall length of the agricultural tractor shall not exceed 6.5 metres.
(3) The overall height of the agricultural tractor shall not exceed 3.8 metres.
(4) The overhang of the agricultural tractor shall not exceed 1.85 metres:
Provided that lateral projection upto 700 millimetres beyond the central line of the rear wheel shall be permitted.]

[53][93-B.Overall dimension for power tillers.—(1)The overall length of the power tiller with a riding attachment shall not exceed 3.5 metres.

(2) The overall width of the power tiller with a riding attachment including case wheelers shall not exceed 1.5 metres.
(3) The maximum overall height of the power tiller shall not exceed 2.0 metres.
(4) The overall length of the power tiller when coupled to a trailer shall not exceed 6.0 metres.
(5) The maximum overall width of the power tiller when coupled to a trailer shall not exceed 1.7 metres.
(6) The maximum overall height of the power tiller when coupled to a trailer shall not exceed 2.0 metres.]

Size, nature and condition of tyres

50a. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).
51. Proviso omitted by G.S.R. 152(E), dated 5-3-2014.
52. Inserted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).
53. R. 93-B Inserted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 16-9-2006).

[54][**93-C.Overall dimension for Airport Passenger Bus (Tarmac Bus)**.—(1)The overall length of the Airport Passenger Bus shall not exceed fifteen mitres.

(2) The overall Width of the Airport Passenger Bus shall not exceed 3.2. meters.

Explanation. – For the purposes of this rule, the term "Airport Passenger Bus (tarmac bus)" means the Bus having doors on both sides which is exclusively used for the carrying the passengers from airport terminal to and from the aircraft and plying on the air side on the Air port terminal with maximum speed not exceeding thirty kilometre per hour.]

Size, nature and condition of tyres

94. Condition of tyres.— [54a][(1)[55][Every motor vehicle including agricultural tractor and its trailer [55a][, and combine harvester and modular hydraulic trailers]] shall be fitted with pneumatic tyres and every construction equipment vehicle, other than steel drum rollers of vibratory compactors or compactor rollers or road roller or a track laying vehicle, shall be fitted with pneumatic tyres or solid rubber tyres.]

(2) The pneumatic tyres of [55][a motor vehicle including agricultural tractor and its trailer [55a][, and combine harvester and modular hydraulic trailers]] shall be kept properly inflated and in good and sound condition.

(3) For the purpose of sub-rule (2), a tyre shall not be deemed to be of good and sound condition if—

(i) any of the fabric of its casing is exposed by wear of the tread or by any unvulcanised cut or abrasion in any of its parts; or

(ii) it shows signs of incipient failure by local deformation or swelling; or

(iii) it has been patched or repaired by an outside gaiter or patch other than a vulcanised repair;

[56][(i*v)* the Non-Skid Depth (NSD), shall not be less than 0.8 mm in the case of-

[56a][two wheeler, three-wheeler, quadricycle, E-rickshaw and E-cart] and 1.6 mm in the case of other motor vehicles, below the Tread Wear Indicator (TWI) embedded in tyres at the time of manufacture:]

Provided that the requirement specified in clause *(iii)* shall not apply to a temporary repair effected to enable the vehicle to be moved to the nearest place where the tyre can be repaired or replaced:

Provided further that where a motor vehicle, other than road roller or track laying vehicle, is not fitted with pneumatic tyres, it shall not be used in a public place unless it is fitted with shoes or other suitable device so that plying of such vehicle does not damage the road:

[57][Provided also that the requirements of the Non-Skid Depth (NSD) and Tread Wear Indicator (TWI) specified in clause *(iv)* shall not be applicable for the agricultural tractor tyres.]

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54. Substituted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).
55. Substituted by G.S.R.111(E), dated 10-2-2004,for certain words (w.e.f. 10-8-2004).
55a. Inserted by G.S.R. 212(E), dated 20-3-2001 (w.e.f. 1-4-2015).
56. Inserted by G.S.R. 221(E), dated 28-3-2001 (w.e.f. 28-9-2001).
56a. Substituted by G.S.R. 709(E), dated 8-10-2014 (w.e.f. 8-10-2014).
57. Inserted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).

95. Size and ply rating of tyres.—[58][(1)the tyres including radial tyres used on all motor vehicles manufactured or imported on and after the 1st day of April, 2006, other than agricultural tractors, construction equipment vehicles and power tillers shall comply with the requirements specified in [59][IS:15627-2005 or IS: 15633-2005 or IS: 15636-2005 applicable]:

Provided that the selection and fitment of tyres for motor vehicles manufactured or imported on and from the 1st day of April, 2006 shall be in accordance with AIS:050:2004 59a[in the case of two wheeler, three-wheeler, quadricycle, E-rickshaw and E-cart] and AIS:051:2004 in the case other motor vehicles, till such time the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986):

Provided further that Central Institute of Road Transport, Pune and any other agency which may be authorised by Central Government from time to time can carry tests for verification against AIS:044:2004 for tyres for the purposes of rule 126.]

[60][(2) The maximum gross vehicle weight and the maximum safe axle weight of each axle of a vehicle shall, having regard to the size, nature and number of tyres and maximum weight permitted to be carried by the tyres as per sub-rule (1), be—

(i) vehicle rating of the gross vehicle weight and axle weight respectively as duly certified by the testing agencies for compliance with rule126, or

(ii) The maximum vehicle weight and maximum safe axle weight of each vehicle respectively as notified by the Central Government, or

(iii) the maximum total load permitted to be carried by the tyre as specified in sub-rule(1) for the size and the number of the tyres fitted on the axle(s) of the vehicle, whichever is less:

Provided that the maximum gross vehicle weight in respect of all vehicles, including multi axle vehicles shall not be more than the sum total of all the maximum safe axle weights put together.

[61][[62][(2-A)The size of the tyres of a construction equipment vehicle] [62a][or a combine harvester] specified in column (1) of the Table below shall have a ply rating specified in the corresponding entry in column(2) of the said Table in respect of maximum weight permitted to be carried by such tyre specified in the corresponding entry in column(3) thereof:

Provided that the maximum safe load for single axle with two or more tyres shall not exceed 10.2 tonnes.

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58. Sub-R. (1) substituted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 16-9-2005).

59. Substituted by G.S.R. 784(E), dated 12-11-2008 (w.e.f. 1-4-2009).

59a. Substituted by G.S.R. 709(E), dated 8-10-2014 (w.e.f. 8-10-2014).

60. Inserted by G.S.R 214(E), dated 18-3-1999 (w.e.f. 18-3-1999).

61. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000),

62. Substituted by G.S.R. 720(E), dated 10-9-2003, for the brackets, figure and words "(2) The size of the tyres of a construction equipment vehicle" (w.e.f. 10-10-2003).

62a. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

OFF-THE-ROAD SERVICE:CONVENTIONAL AND WIDE BASE DIAGONAL PLY TYRES

TABLE

AGRICULTURAL TRACTOR DRIVE WHEEL

Tyre size Designation	Ply rating	Maximum weight permitted to be carried (Kgs.)
8.3/8-24	4	630
	6	825
8.3/8-32	4	730
	6	925
11.2/10-28	4	900
	6	1120
	8	1320
12.4/11-24	4	950
	6	1215
	8	1450
12.4/11-28	4	1030
	6	1285
	8	1550
	10	1600
	12	1650
12.4/11-36	4	1150
	6	1450
12.4/11-38	4	1180
	6	1500
	8	1750
13.6/12-28	4	1120
	6	1450
	8	1650
	10	1750
	12	1800
16.9/14-28	6	1850
	8	2180
	10	2430
	12	2725

ROAD GRADER		
13.00-24	8	2040
	12	2485
14.00-24	12	3015

OFF THEROAD HAULAGESERVICETYRES		
Tyre size Designation	Ply rating	Maximum weight permitted to be carried (Kgs.)
12.00-20	14	2650
	16	2900
12.00-24/25	14	3000
	16	3250
13.00-24/25	18	3875
14.00-24/25	16	4000
	20	4625
	24	5150
16.00-24/25	20	5450
	24	6000
	28	6700
18.00-24/25	12	4750
	16	5600
	20	6500
	24	7300
	28	8000
	32	8750

WIDEBASE		
23.5-25	12	5300
	16	6150
	20	7300
	24	8000

Note.—[63][1.]The load rating for tyres not covered by the above Table may be notified by the Central Government as and when such tyres are introduced on construction equipment vehicles, and until these are notified, the provisional load rating declared by the construction equipment vehicle manufacturer may be certified by the certifying test agency referred to in rule 126.]

[64][2. The maximum axle loading capacities shall be verified based on the safe loading capacities of the tyres. In cases where the axle load exceed 10.2 tonnes, the vehicle manufacturer shall ask the user to seek the prior permission of the concerned Regional or State Transport Authorities in whose jurisdiction the construction equipment vehicle is expected to ply depending upon the conditions of roads/bridges, where deemed fit. Such construction equipment vehicles whose axle load exceeds 10.2 tonnes shall display permanently on the vehicle a placard indicating "NOT FOR PLYING ON ROADS". These conditions shall be mentioned in the certificate, issued by the testing agencies referred to in the rule 126, where the axle load exceeds 10.2 tonnes.]

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63. The existing note numbered as "1" by G.S.R. 116(E), dated 27-2-2002 (w.e.f. 27-8- 2002).
64. Inserted by G.S.R. 116(E), dated 27-2-2002 (w.e.f. 27-8-2002).

3. No tyre shall have a ply rating more than 20, for applications of on-highway and such ply rating shall not be prescribed by either vehicle manufacturer or employed by vehicle user on this class of vehicle.

(4) Check on sub-rule (3) of rule 95 on commercial vehicles will be conducted by the authority indicated in sub-rule (1) of rule 126, while conducting the checks.]

[65][(5) Every tyre manufacturer shall, in addition to any trade mark or size of the tyre, also emboss on it the following, namely:—

(i) Week and year code or month and year code of manufacture; and

(ii) maximum load carrying capacity.]

[66][(6)In the case of Indian manufactured vehicles and imported vehicles (new and old), the size of tyres if included in the International Standards, namely, ECE, JATMA, ETRTO and T & RA besides Bureau of Indian Standards may also be accepted under this rule:

Provided that the following conditions shall be complied with:

(i) that testing agencies referred to in rule126 shall satisfy themselves about the load and speed rating of the tyre with reference to the Indian conditions;

(ii) that the test report/certificate issued by the testing agency of the Country of origin shall be verified for acceptance by the testing agency referred to in rule 126;

(iii) that for tubeless tyres fitted on imported vehicles confirming to conditions (i) and (ii) shall also be allowed.]

[67][(7) Temporary use spare wheel or tyre and Run Flat Tyres for vehicles of categories M1 and N1, if they are different from the normal tyre used on the vehicle shall conform to AIS 110:2009, as amended from time to time, till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).]

[68]**[95-A. Size and ply rating of tyres for agricultural tractor**.—(1) The tyre of the agricultural tractor shall have load carrying capacity as may be specified by the tyre manufacturer, subject to the condition that the maximum load specified by the agricultural tractor manufacturer shall not be greater than the load permitted by the tyre manufacturer.

(2)The agricultural tractor manufacturer shall select only that rim size as recommended by the tyre manufacturer.

Note.—For compliance to the above two sub-rules, the following shall be referred to IS: 13154-1991 as amended from time to time—Tyres for agricultural tractor, implements and power tillers. In case a particular size of tyre is not listed in IS:13154-1991, any equivalent International Standard like Economic Commission of Europe (ECE), Japanese Automotive Tyre Manufacturers Association (JATMA), European Tyre and Rim Technical Organisation (ETRTO), The Tyre and Rim Association Inc. (T&RA) and Indian Tyre Technical Advisory Committee (ITTAC), etc., shall be accepted.]

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65 Inserted by G.S.R. 221(E), dated 28-3-2001 (w.e.f. 28-9-2001).
66 Inserted by G.S.R 400(E), dated 31-5-2002 (w.e.f. 31-5-2002).
67. Inserted by G.S.R. 625€, dated 8-8-2012 (w.e.f. 8-8-2012).
68 Inserted by G.S.R 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).

[69]**[95-B.Size and ply rating of tyres for power tillers**.—(1)The tyre should have load Carrying capacity as specified by the tyre manufacturer, however, the maximum load

specified by the power tiller manufacturer shall not be greater than that permitted by the tyre manufacturer.

(2)The power tiller manufacturer shall select the recommended/preferred rim sizes only, as suggested by the tyre manufacturer.

Note.—For compliance to this rule, the following standards shall be referred to, namely:—

(i)IS:13154-1991, as amended from time to time-Tyre for agricultural tractor, implement and power tillers.

*(ii)*In case a particular size of tyre is not listed in IS: 13154-1991, as amended from time to time, any equivalent International Standard like ECE, JATMA, ETRTO, TNRA, ITTAC, etc.]

[69a]

[**95-C. Size and ply rating of tyres for modular hydraulic trailers**.-(1) The tyres including radial tyres used on modular hydraulic trailers shall be in accordance with IS 15636:2005 as amended from time to time.

(2) The tyre of modular hydraulic trailers shall have load carrying capacity as specified by the tyre manufacturer, however, the maximum load specified by the modular hydraulic trailers manufacturer shall not be greater than that permitted by the tyre manufacturer.

(3) The modular hydraulic trailer manufacturer shall select the recommended or preferred rim sizes only, as suggested by the tyre manufacturer and the wheel rims shall confirm to IS 9438:1980.

Note.-For compliance to this rule, any equivalent national or international standards such as Indian Standards (IS), Automotive Industry Standards (AIS), ECE (Economic Commission of Europe), Japan Automobile Tyre Manufacturers Association (JATMA), European Tyre and Rim Technical Organisation (ETRTO), Tyre and Rim Association Inc. (TRA), Indian Tyre Technical Advisory Committee (I'TT'AC), etc., may be referred.

95-D.Limited road trials.- The Hydraulic Modular Trailer with specified Gross Vehicle Weight or maximum load carrying capacity shall be subjected to minimum hundred kilometres run preferably on plain roads with speed less than ten kilometres per hour.]

Brakes, steering gears, safety glass and windscreen wipers

96.Brakes.—[70][(1)Every motor vehicle, other than a motor cycle, three-wheeled Invalid carriage, trailer or a road roller shall be equipped with two independent and efficient braking systems, namely, the parking brake and foot operated service brake:

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69 R 95-B inserted by G.S.R. 589(E),dated 16-9-2005 (w.e.f. 16-9-2006).

69a Inserted by G.S.R 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

70 Substituted by G.S.R 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).

Provided that a motor cycle and three-wheeled invalid carriage shall be equipped with the independent and efficient braking systems, either both hand operated or one foot operated and the other hand operated.]

(2) The braking system shall be of strength capable of stopping the vehicle within

the distance specified in sub-rule(8) and of holding it at rest in all conditions and all such brakes at all time be properly connected and maintained in efficient condition.
[71][***]

(3) In every motor vehicle [72][other than agricultural tractors,] the brakes operated by one of the means of operation shall act directly upon the wheel and not through the transmission gear.

[73][(4)Every motor vehicle manufactured on and after the 1st day of April, 2006 shall have a braking system whose performance shall conform to the following Indian Standard, namely:—

(i) for [73a][two-wheelers, three-wheelers, E-rickshaw and E-cartIS:14664:1999, as amended from time to time.

(ii) All [73b][motor vehicles including quadricycles], other than two-wheelers, three-wheelers, trailers, semi-trailers, construction equipment vehicles, [73a][agricultural tractors, power tillers, E-rickshaws and E-carts], IS:11852 (Part 1):2001, 11852(Part 2):2001,11852 (Part 3):2001, 11852 (Part 4):2001, 11852 (Part 5):2001, 11852 (Part 6):2001, 11852 (Part 7):2001 and 11852 (Part 8):2001, as amended from time to time:

[73c][***]

[73d][Provided that] IS: 11852:2003 (Part 9) shall be applicable for vehicles manufactured on and after the 1st day of October, 2006 fitted with Anti-Lock Braking System.]

(5) Except in the case of a motor cycle, the braking system or one of the braking systems of a motor vehicle shall be so constructed and maintained that it can be so set as effectively to prevent at least two, or in the case of a motor vehicle having three wheels, at least one of the wheels from revolving when the vehicle is left unattended.

(6) The braking system or part thereof which functions in the aforesaid manner shall be known as parking brake and where such a parking brake is designed to be operated by hand, it shall be known as hand-brake.

[74][(7)(a) In the case of motor vehicles, other than three-wheelers of gross vehicle weight not exceeding 1000kgs. And motor cycles, the service brake shall be acting on all the wheels of the vehicle.

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71 Proviso omitted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
72 Added by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
73 Sub-R. (4) substituted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 16-9-2005).
73a Substituted by G.S.R. 709(E), dated 8-10-2014 (w.e.f. 8-10-2014).
73b Substituted by G.S.R. 99(E), dated 19-2-2014 (w.e.f. 1-10-2014).
73c Proviso omitted by G.S.R. 225(E), dated 26-3-2015 (w.e.f. 1-4-2015).
73d Substituted by G.S.R. 225(E), dated 26-3-2015 (w.e.f. 1-4-2015).
74 Substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).

(b)In case of three-wheelers of gross vehicle weight not exceeding 1000kgs. If the foot operated brake does not act on all the wheels, the following conditions shall be fulfilled, namely:-

(i) the foot operated brake shall act on the two wheels which are on the same axle, and

(ii) in addition to the parking brake, there shall be an independent brake acting on the other wheel of the vehicle with an independent hand-operated control.

(c) In the case of motor cycles, the braking system operated with the foot or left hand shall act at least on the rear wheel and the brake operated by right hand at least on the front wheel.

(d) In the case of agricultural tractors, the braking system shall act as on both the rear wheels, either directly or through the transmission gear.]

(8) The service braking system in the case of vehicle other than three-wheelers and motor cycles, and the braking system operated by one of the means of operation other than the parking brake in the case of three-wheelers and motor cycles shall be capable to bring the vehicles to halt within the distance specified in the following Table when tested in accordance to the condition prescribed correspondingly in the Table. The test shall be conducted on a dry level hard road in good condition. During the test the accelerator control shall be fully released and in the case of vehicles with manual gear shifting control, the top gear and the clutch shall be engaged.

Table

SI. No.	Type of vehicle	Load	Test speed (The speed at which the brake should be applied)(Kmph)	Type of brake	Stopping distance (m)
1.	All vehicles other than	Laden to the	30	Foot operated	13
	Motor cycles, three-	registered	30	Service	13
	Wheelers and agricultural	GVWor			
	Tractors	Unladen			
	Do	Laden or	40	Do	21
	Do	Unladen	40	Do	21
2.	Motorcycles	Unladen	30	Foot or hand operated	21
3.	Three-wheelers including three-wheeler tractors for trailer	Unladen	30	Foot operated (brakes operational: on at least two wheels)	13 Kg
4.	Agricultural tractors	Laden to test mass	25	Foot operated service	10
5.	All other than three-	Laden to the	30	-do-	12.7
	Wheelers of engine	registered	40	-do-	15.0
	Capacity not exceeding	GVW or	30	-do-	9.3
	500 cc,motor cycles and agricultural tractors	Unladen	40	-do-	12.0
75[6.	Puller Tractor	GVW	20	Foot operated service	13]

75. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

For the purpose of this test for vehicles other than motorcycles the "unladen" means the vehicle is without any load and shall carry only the driver and another person for specific purpose of supervising the test, and the instruments, if any. In the case of motor cycles, the "unladen" means that vehicle will carry only the single rider and the measuring instrument, if any.]

75a[(9)The following category of vehicles shall be fitted with Anti-Lock Braking System conforming to IS:11852:2003 (Part 9):—

(i) N2 [75b][***] category of vehicles other than tractor-trailer combination manufactured on and after the 1st day of October, 2006 meant for carrying hazardous goods and liquid petroleum gas;

[75c][(ii) New models of M3 and N3 categories of vehicles manufactured on and after the 1st April, 2015;

(iii) Existing models of M3 and N3 categories of vehicles manufactured on and after the 1st October, 2015;]

[75d][(iv) the following categories of vehicles manufactured prior to the dates specified in clauses (ii) and (iii) shall be fitted with Anti-lock Braking System conforming to IS: 11852:2003 (Part 9);

(a) N3categories of vehicles other than tractor-trailer combination manufactured on and after the1st day of October, 2006 meant for carrying hazardous goods and liquid petroleum gas;

(a) N3 categories vehicles manufactured on and after the 1st day of October, 2007, that are double decked transport vehicles;

(b) N3 categories of vehicles manufactured on and after the 1st day of October, 2007, that are used as tractor-trailer combinations;

(c) M3 categories of buses that ply on All India Tourist Permit, manufactured on and after the 1st day of October, 2007.]

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[76][**96-A.Brakes for construction equipment vehicle**.—(1)Construction equipment Vehicle with hydrostatic transmission shall employ either hand or foot operated hydrostatic braking system both for service and parking brake system acting at least on two wheels on the same axle or drum.

(2) The braking system shall be of a strength capable of stopping the vehicle within the distance specified in sub-rule(8) and of holding it at rest in all conditions, and all such brakes shall at all times be properly conducted and maintained in efficient condition.

75a. Sub-R. (9) inserted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 16-9-2005).

75b. Certain words omitted by G.S.R. 389(E), dated 9-6-2014 (w.e.f. 1-10-2014).

75c. Substituted by G.S.R. 389(E), dated 9-6-2014 (w.e.f. 1-10-2014).

75d. Inserted by G.S.R. 52(E), dated 23-1-2015 (w.e.f. 23-1-2015).

76 Inserted by G.S.R. 642(E) dated 28-7-2000 (w.e.f. 28-7-2000).

(3) In every construction equipment vehicle, other than those having hydrostatic transmission, the brakes operated by any of the means of operation shall act directly upon the wheel or at a suitable location in the power train provided that such an action does not discouple, disengage or isolate the braking action from the wheels.

(4) Every construction equipment vehicle which manufactured on or after the Commencement of the Motor Vehicles (Sixth Amendment) Rules, 2000, shall have a braking system whose performance shall [77][conform to the test and stopping distance formula as specified in sub-rule(7)].

(5) The braking system or one of the braking systems of construction equipment vehicle, shall be so constructed and maintained that it can effectively prevent at least two wheels or drums from revolving when the vehicle is left unattended and it shall be designed to be applied through hand or foot or automatically when engine is not running.

(6) In the case of construction equipment vehicles with four or more than four wheels, the service brake shall work on at least two wheels of the vehicle.

[77][(7)The service braking system of the construction equipment vehicle shall be capable of bringing the vehicle to a halt within the stopping distance as calculated by the formula given below, when tested in unladen condition and attachment carry position at a speed corresponding to 80 per cent. of the design maximum speed. The test shall be conducted in the forward direction of travel on a dry level hard road in good condition and during the test the acceleration control or travel shall be fully released and in the case of vehicle with manual gear shifting control, the top gear and the clutch shall be engaged.]

STOPPING DISTANCE FORMULA

$$S - 0.15v+(V^2/130),$$

Where S is the Stopping distance in metres,

V is the test speed corresponding to 80% of design maximum speed in Km/h., Control force F – 700 Newtons.

Explanation.—For the purposes of this sub-rule, "unladen" means the construction equipment vehicle in travel mode without any load except the driver and another person for the specific purpose of supervising the test and the instruments, if any:

Provided that while the stopping distance formula mentioned above remain unchanged, the construction equipment using hydrostatic transmission, the brake test shall be performed by positioning the gear change lever to the neutral position.]

[78][79]**[96-B. High Speed Braking Requirements].**—For high speed braking, the following test procedure shall be followed, namely:—

(a) In the case of Category M-l, the P type, service brake test as defined under IS:11852-2001—Part3, shall be carried out in the engine connected mode at a test speed of 120km/horat80% of the design maximum speed of the vehicle, which ever is lower.

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77 Substituted by G.S.R. 116(E), dated 27-2-2002 (w.e.f. 27-8-2002).

78 Inserted by G.S.R. 400(E) dated 31-5-2002 (w.e.f. 31-5-2002).

79 Substituted by G.S.R. 720(E), dated 10-9-2003, for the figures, letter and words "96-A High Speed Braking Requirements" (w.e.f. 10-10-2003).

(b) The stopping distance requirements shall be according to the following formula, namely:—

$S - 0.1V+(V^2/130)$:

where, S is the Stopping Distance in mtrs.

V is the test speed in km/h, and

Control force F -500Newtons.

Provided that this sub-rule shall be applicable in case of new vehicles yet to be type approved after six months, and in case of already type approved vehicles, twelve months, from the date of the commencement of the Central Motor Vehicles (Third Amendment) Rules,2002.]

[80]**[96-C.Brakesforagriculturaltractor.**—The braking system of the agricultural tractor shall conform to IS: 12061-1994 and IS: 12207-1999, as amended from time to time.]

80a[Provided that every agricultural tractor manufactured on or after the 1st February, 2016 and coupled with agricultural trailer, shall meet the following requirements to facilitate agricultural trailer having hydraulic brake system as per AIS:043-2005 specification referred to in sub-rule (3) of rule 97, namely:-

(a) a hydraulic pump and valve with suitable pipe connections on the tractor;

(b) a hydraulic piping and pressure lines on the tractor supplied by the Original Equipment Manufacturer (OEM) as accessories, to be fitted on the tractor by their dealers which shall be terminated at the rear end of the tractor, to facilitate tapping of hydraulic line for trailer;

(c) the hydraulic line pressure available at the rear end of the tractor shall be clearly specified by the manufacturer for each type and model of the tractor in the owner's manual;

(d) the tractor shall have the minimum provision for connecting the trailer brake actuation cable or linkage.]

[81]**[96-D.Braking requirements for power tillers.**—The power tillers when coupled to a trailer shall meet the following requirements, namely:—

(i) the brake test for the power tiller coupled to a trailer shall be carried out with a gross combination weight not exceeding 1.5 tons as declared by the manufacturer;

(ii) The brake test shall be conducted at a speed of 15 km/h to meet the stopping distance requirement of 7.5 metres with the pedal effort not exceeding 600N;

(iii) The trailer coupled to the power tiller shall be fitted with a parking brake capable of holding the combination on an up-slope and down-slope gradient of 12%.]

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80 Inserted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).

80a Substituted by G.S.R. 492(E), dated 15-6-2015 (w.e.f. 15-6-2015).

81 R. 96-D inserted by G.S.R 589(E), dated 16-9-2005 (w.e.f 16-9-2006).

[81a][**96-E. Brakes for combine harvester**.-(1) The brakes test shall be conducted in forwarded direction on dry hard road in good condition with the clutch disengage and cutter bar trailer with header assembly attached to reel of combine harvester.

(2) The service braking system of the unladen combine harvester shall be capable of bringing the vehicle to a halt within a specified stopping distance when brake is applied at the standard test speed as mentioned in the Table below:

TABLE

S.No.	Type of Combine	Load (Unloader)	Test Speed	Stopping Distance
1	Self Propelled Combine harvester	-	20 km/h or max speed whichever is less	10 meter
2	Tractor Powered Combine harvester	-	24 km/h or max speed whichever is less	10 meter

Maximum pedal force should not be more than 600N.]

97. Brakes for trailers.—(1) [82][82a][Every trailer including modular hydraulic trailer], other than a tractor-drawn trailer, having five hundred kilograms and more of weight] shall have an efficient braking system which are capable of being applied when it is being drawn,—

(i) In the case of trailer having not more than two axles, to atleast all the wheels of one axle; or

(ii) In the case of a trailer having more than two axles, to at least all the wheels of two axles:

Provided that the braking system shall be so constructed that it is not rendered in effective by then on-rotation of the engine of the drawing vehicle.

(2) The provision of sub-rule (1) shall not apply to,—

(i) any land implement drawn by a motor vehicle;

(ii) any trailer designed for use and used by a local authority for street cleansing or by the fire service for fire fighting, which does not carry any load other than its necessary gear and equipment;

(iii) any disabled vehicle which is being drawn by a motor vehicle in consequence of its disablement.

81a Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).
82 Substituted by G.S.R. 933(E), dated 28-10-1989 (w.e.f. 28-10-1989).
82a Substituted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

[83][(3) The braking system and performance requirements of the agricultural trailer in combination with the agricultural tractor shall be in accordance with AIS:043-2005, till the

corresponding BIS specifications are notified under the Bureau of India Standards Act, 1986 (63 of 1986):]

[83a][Provided that every agricultural trailer manufactured on or after the 1st February, 2016 shall meet the following requirements for compliance to agricultural trailer brake system as per AIS:043-2005 specification, as amended from time to time, namely:-

(a) fitment of the hydraulic braking system or inertia over-run braking system such as foundation brake (drum or disc, etc.) actuation systems on the trailer including the proportional or control valve;

(b) type approval of agricultural trailer braking system requirements as per AIS-043-2005, as amended from time to time.]

98.Steering gears.—(1) The steering gear of every motor vehicle shall be maintained in good and sound condition, free from back-lash exceeding 30 degrees on the steering wheel, all [83b][ball joints connecting the steering linkage,] shall be protected by rubber caps and where the connections are secured with bolts or pins, the bolts or pins shall be effectively locked.

[84][(2)The steering gear of every motor vehicle shall be so constructed as to conform to IS: 12222-1987, as amended from time to time.]

[85][(3)[86][On and after 1s tMay, 2003], the steering effort of all motor vehicles other than three-wheelers not fitted with steering wheel, motor cycles, [87][and invalid carriages] manufactured shall conform to the Indian Standard IS:11948-1999, as amended from time to time.]]

[88][(3-A] On and after 1st October 2014, the steering effort of quadricycle shall conform to Indian Standards IS 11948-1999, as amended from time to time.]

[89][(4)Every heavy passenger motor vehicle manufactured after expiry of six month from the date of commencement of the Central Motor Vehicles (Amendment) Rules, 2000 (including the date of such commencement), shall be fitted with power steering gears.]

[84][(5)The power steering shall be fitted in,—

(a) the Category N3 multi-axle vehicles on and from 1st May, 2004; and

(b) other than multi-axle vehicles of Category N3 on and from 1st December, 2004.]

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83 Inserted by G.S.R. 784(E), dated 12-11-2008 (w.e.f. 1-4-2009).
83a Inserted by G.S.R. 492(E), dated 15-6-2015 (w.e.f. 15-6-2015).
83b Substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
84 Sub-Rr. (2) and (5) substituted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).
Sub-R.(3) substituted by G.S.R. 400(E), dated 31-5-2002 (w.e.f. 31-5-2002).
86. Substituted by G.S.R. 845(E), dated 27-12-2002(w.e.f. 27-12-2002).
Substituted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).
88 Inserted by G.S.R. 99(E), dated 19-2-2014 (w.e.f. 1-10-2014).
89 Inserted by G.S.R. 65(E), dated 25-1-2000 (w.e.f. 25-1-2000).

[90][**98-A.Steering gears for construction equipment vehicles**.—(l)The steering system of every construction vehicle shall be maintained in good and sound condition, with backlash not exceeding 30 degrees on the steering wheel when tested with the engine running; ball-joints

connecting the steering linkage of the mechanical steering system shall be protected by rubber caps and where the connections are secured with bolts or pins, the bolts or pins shall be effectively locked; in the case of hydrostatic steering system the moving parts shall be effectively sealed and protected from dust ingress.

(2) The steering system of the construction equipment vehicle shall be adequately designed to ensure efficient and effective control of the vehicle under all the driving conditions and shall be so constructed as to conform to the Indian Standards IS:12222-(1987), as modified from time to time.

(3) The steering effort of the construction equipment vehicles during normal Unladen operation shall not exceed 11.7 kg push/pull for hydrostatic steering system and 20 kg for manual steering wheel system when evaluated as per clauses 5.1 to 5.4 of Indian Standards IS: 11948-(1986) as specified by the Bureau of Indian Standards.]

[91][**98-B.Steering Gears for agricultural tractors**.—(1)The steering gear of agricultural tractor shall be maintained in good and sound condition, free from backlash exceeding 30 degrees on the steering wheels. All ball joints connecting the steering linkage shall be protected by rubber caps and where the connections are secured with bolts, or pins, the bolts or pins shall be effectively locked.

(2) The turning circle diameter and turning circle clearance diameter of every agricultural tractor shall conform to IS:11859-1986, as amended from time to time.

(3) The steering effort requirement of agricultural tractor shall conform to Automotive Industry Standard (AIS):042 as amended from time to time, till such time the corresponding BIS standard is notified.]

[92][**98-C.Steering gear for power tillers**.—The turning circle diameter and the turning clearance circle diameter of power tillers coupled to trailers, when measured as per IS:12222:1987, as amended from time to time, shall not exceed 10 metres.]

[93][**98-D. Steering gears for combine harvester**.-(1) The turning clearance circle diameter of combine harvester, coupled to the trailer for header assembly, if any, when measured as per IS: 11859-2004, as amended from time to time, shall not exceed 20 meters, without brake condition.

(2) The steering effort requirement of combine harvester shall conform to AIS : 042-2004, as amended from time to time, till such time the corresponding Bureau of Indian Standard is notified.]

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90 Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).

91. Inserted by G.S.R. 111(E), dated 10-2-2004(w.e.f.10-8-2004).

92. R.98-C inserted by G.S.R. 589(E), dated 16-9-2005(w.e.f.16-9-2006).

93. Inserted by G.S.R. 212(E), dated 20-3-2015(w.e.f.1-4-2015).

99.Forward and backward motion.—Every [94][motor vehicle including [95][construction equipment vehicle and agriculture tractor and combine harvester] other than a motor cycle and three-wheeled invalid carriages, shall be capable of moving under its own power [96][in the reverse direction also]:

[97][Provided that power tillers with a riding attachment and power tillers coupled to trailers shall be capable of moving under its own power in the reverse direction also.]

100.Safety glass.—(1)The glass of windscreens and the windows of every motor vehicle [98][other than agricultural tractors] shall be of safety glass:

Provided that in the case of three-wheelers and vehicles with hood and side covers, the windows may be of [96][acrylic or plastic transparent sheet.]

Explanation.—For the purpose of this rule,—

(i) "safety glass" means glass [99][conforming to the specifications of the Bureau of Indian Standards or any International Standards 1[***]] and so manufactured or treated that if fractured, it does not fly or break into fragments capable of causing severe cuts;

(ii)any windscreen or window at the front of the vehicle, the inner surface of which is at an angle 2[more than thirty degrees] to the longitudinal axis of the vehicle shall be deemed to face to the front.

[3][(2)The glass of the windscreen and rear window of every motor vehicle shall be such and shall be maintained in such a condition that the visual transmission of light is not less than 70%. The glasses used for side windows are such and shall be maintained in such condition that the visual transmission of light is not less than 50%, and shall conform to Indian Standards [4][IS: 2553— Part2—1992];

[5][(3) The glass of the front windscreen of every motor vehicle [2][other than two-wheelers and agricultural tractors] manufactured after three years from the coming into force of the Central Motor Vehicles (Amendment) Rules,1993 shall be made of laminated safety glass:

[6][Provided that on and from three months after the commencement of the Central Motor Vehicles (Amendment) Rules,1999, the glass of the front windscreen of every motor vehicle other than two-wheelers and agricultural tractors shall be made of laminated safety glass conforming to the Indian Standards IS:2553—Part2—1992.]

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94. Substituted by G.S.R. 116(E), dated 27-2-2002, for "motor vehicle"(w.e.f.27-8-2002).
95. Substituted by G.S.R. 212(E), dated 20-3-2015(w.e.f.1-4-2015).
96. Substituted by G.S.R. 338(E), dated 26-3-1993(w.e.f.26-3-1993).
97. Proviso inserted by G.S.R. 589(E), dated 16-9-2005 (w.e.f.16-9-2006).
98. Inserted by G.S.R. 338(E), dated 26-3-1993(w.e.f.26-3-1993).
99. Substituted by G.S.R. 933(E), dated 28-10-1989, for "approved by" (w.e.f.28-10-1989).
1. Certain words omitted by G.S.R. 214(E), dated 18-3-1999 (w.e.f.18-3-1999).
2. Substituted by G.S.R. 214(E), dated 18-3-1999, for certain words (w.e.f. 18-3-1999).
3. Sub-R. (2) substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
4. Substituted by G.S.R. 214(E), dated 18-3-1999, for "IS:2253 Part 2" (w.e.f. 18-3-1999)
5. Inserted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
6. Inserted by G.S.R. 214(E), dated 18-3-1999 (w.e.f. 18-3-1999).

Explanation.—For the purpose of these sub-rules "laminated safety glass" shall mean two or more pieces of glass held together by an intervening layer or layers of plastic materials. The laminated safety glass will crack and break under sufficient impact, but the pieces of the glass tend to adhere to the plastic material and do not fly, and if a hole is produced, the edges would be less jagged than they would be in the case of an ordinary glass.

[7][(3-A) The glass of the front windscreen of a construction equipment vehicle

Manufactured after 3 years from the date of commencement of the Central Motor Vehicles (Sixth Amendment) Rules, 2000 shall be made of laminated safety glass.]

[8][(3-B) The glass of the front wind screen of a combine harvester shall be made of laminated safety glass.]

(4) Notwithstanding anything contained in this rule if the Central Government is of the opinion that it is necessary and expedient to do so in public interest, it may, by order published in the Official Gazette, exempt [9][any motor vehicle including construction equipment vehicle] for use by any person, from the provisions of this rule.]

[10][**101.Windscreenwiper**.—(1) An efficient power operated [11][* * *] windscreen wiper shall be fitted to every motor vehicle having a windscreen, other than three-wheeled invalid carriage [12][and motor cycles].

(2) One year from the date of commencement of Central Motor Vehicles (Amendment) Rules, 1993, [13][all motor vehicles other than three-wheelers, motor cycles and invalid carriages [14][manufactured on and after 1st January, 2003 in respect of Category Ml vehicles, and in respect of other vehicles, on and after 1st May, 2003], having a wind screen shall be fitted with a wind screen wiping system which shall conform to the requirements laid down in the following standards, as amended from time to time, till such time the corresponding Bureau of Indian Standards specifications are notified:

(i) [14a][IS:15804-2008], in the case of M-1 category of vehicles

(i) [14a][IS:15802-2008], in the case of other vehicles.]

[14b][(iii) AIS 045/2004, in the case of quadricycles, on and after 1st October, 2014.]

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7. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).

8. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

9. Substituted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).

10. Substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).

11. The words "or foot operated" omitted by G.S.R. 214(E), dated 18-3-1999 (w.e.f. 18-3-1999).

12. Substituted by G.S.R. 589(E), dated 16-9-2005, for "motor cycles and three-wheelers of engine capacity not exceeding 500cc" (w.e.f. 1-4-2006).

13. Substituted by G.S.R. 400(E), dated 31-5-2002 (w.e.f. 31-5-2002).

14. Substituted by G.S.R. 845(E), dated 27-12-2002, for "manufactured on and after 1st January, 2003" (w.e.f. 27-12-2002).

14a. Substituted by G.S.R. 291(E), dated 24-4-2014 (w.e.f. 24-4-2014). 14b. Inserted by G.S.R. 99(E), dated 19-2-2014 (w.e.f. 1-10-2014).

[15][(2-A) [15a][All construction equipment vehicles and combine harvesters] having windscreen shall be fitted with an efficient power operated windscreen wiping system. The windscreen wiping system shall conform to the requirements of the standards as may be specified from time to time under these rules.]

[16][(2-B) On and after 1st April, 2015, all agricultural tractors having wind screen shall conform to AIS 011/2001, as amended from time to time till such time the corresponding

Bureau of Indian Standards specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).]

[17][* * *]

[18][**102. Signalling devices, direction indicators and stop lights**.—[19][(1)The signal to turn to the right or to the left shall be given by electrically operated direction indicator lamps on all motor vehicles including [15a][construction equipment vehicles and the combined harvester, and such construction equipment vehicles and combine harvester] be fitted and maintained so that the following conditions are met, namely:—

(i) The direction indicator lamps shall be of amber colour which are illuminated to indicate the intention to turn, by a light flashing at the rate of not less than 60 and not more than120 flashes per minute.

(ii) The light emitted by the lamp when in operation shall be clearly visible from both front and rear of the vehicle.

(iii) The minimum illuminated area of each direction indicator shall be 60 square centimeters:

Provided that nothing contained in this sub-rule shall apply to L1 category of motor cycles.]

[20][(2)On all vehicles other than motor cycles, [21][the intention to stop the vehicle (other than construction equipment vehicle [21a][and the combine harvester] having hydrostatic brakes)] shall be indicated by two electrical stop lamps which shall be red in colour and shall be fitted one on each left and right-hand sides at the rear of the vehicle. The stop lamps shall light up on the actuation of the service brake control. In the case of motor cycle, the intention to stop the vehicle shall be indicated by one stop lamp at the rear which shall light up on the actuation of the control operating the brakes on the rear wheels.]

(3)One year from the date of commencement of the Central Motor Vehicles (Amendment) Rules, 1993, the stop lamp of every motor cycle shall be so designed and fitted that it will light up on actuation of any of the controls which actuate the brakes on any wheel.]

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5. Substituted by G.S.R. 116(E), dated 27-2-2002, for sub-R. (2-A) (w.e.f. 27-8-2002).

15a. Substituted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

16. Inserted by G.S.R. 291(E), dated 24-4-2014 (w.e.f. 24-4-2014).

17. Sub-R.(3) omitted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 16-9-2005).

18. Substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).

19. Sub-R. (1) substituted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 1-4-2006).

20. Sub-R. (2) substituted by G.S.R. 214(E), dated 18-3-1999 (w.e.f. 18-3-1999).

21. Substituted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).

21a. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

[22][(4) In the case of modular hydraulic trailer,-

(i) The intention to stop shall be indicated by two electrical stop lamps which shall be red in color and shall be fitted one each on left and right hand sides at the rear of the vehicles;

(ii) The stop lamps shall light up on the actuation of the service brake control of the puller tractor;

(iii)at least two direction indicators of amber colour shall be fitted, which are illuminated to indicate intention to turn by a light and the minimum illuminated area of each indicator shall be 60 sq.cm.]

103. Position of the indicator.—(1) A direction indicator shall be fitted and every direction indicator shall be so designed and fitted that [22a][the driver of the vehicle including a construction equipment vehicle] [22][and the combine harvester] when in his driving seat is aware that it is operating correctly.

[23] [(2) One year from the date of commencement of the Central Motor Vehicles (Amendment) Rules, 1993, [22a][every motor vehicle including a construction equipment vehicle] [22][and the combine harvester] other than [24][* * *] motor cycles shall be equipped with such a device that when the vehicle is in an immobilized condition all the direction indicators flash together giving hazard warning to other road users.]

[23][**104.Fitment of reflectors**.—[25][(1) Every motor vehicle manufactured on and after the 1st day of April, 2006, including trailers and semi-trailers, other than three-wheelers and motor cycles shall be fitted with two red reflectors, one each on both sides at their rear. Every motor cycle shall be fitted with at least one red reflex reflector at the rear:

[26][Provided that in respect of the vehicles of –

(i) Category N-1 and Category N-2, 3.5 tonnes and above but less than 7.5 tonnes Gross Vehicle Weight, manufactured on and after 1st day of April, 2009, shall be affixed at the front with a white-reflective tape and at the rear with a red reflective tape running across the width of the body and the tapes affixed at front and rear shall be not less than 20 mm width and shall conform to the requirement of Annexures 4,5 and 6 of AIS:090-2005 till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).

(ii) Category N-3 and Category N-2, 7.5 tonnes and above Gross Vehicle Weight, manufactured on and after 1st day of April, 2009, shall be affixed at the front with a white reflective tape running across the width of the body and the tape affixed at the front shall not be less than 50 mm width and shall conform to the requirement of Annexures 4, 5 and 6 of AIS:090-2005 till the corresponding BIS specifications are notified under the Bureau of Indian standards Act, 1986 (63 of 1986).

(iii) Category N-3 including trailers or semi-trailers and Category N-2, 7.5 tonnes and above GVW along with trailers or semi-trailers, manufactured on and after 1st day of April, 2009,

22. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

22a. Substituted by G.S.R. 116(E), dated 27-2-2002 (w.e.f. 27-8-2002).

23. Substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).

24. The words "three wheelers of engine capacity not exceeding 500 cc and" omitted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 1-4-2006).

25. Sub-R (1)and the proviso substituted by G.S.R.589(E), dated 16-9-2005 (w.e.f. 16-9-2005).

26. Substituted by G.S.R. 784(E), dated 12-11-2008 (w.e.f. 12-11-2008).

shall be affixed with reflective contour marking at the rear and side in accordance with AIS:090-2005 till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).

(iv) Category M-2 and M-3, manufactured on and after 1st October, 2009, shall be affixed at the front with white reflective tape and at the rear with red reflective tape running across the width of the body and the sides of M3 category vehicles shall be affixed with yellow reflective tape running across the length of the body but tapes so affixed shall not be less than 50 mm width and shall conform to Annexure 4, 5 and 6 of AIS:090-2005, till the

corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).]

(2) Every goods carriage vehicle including trailers and semi-trailers other than three-wheeler [27][* * *] shall be fitted with two white reflectors one each at the extreme right and left bottom corners in the front of the vehicle and facing to the front. The reflecting area of each reflector shall not be less than 28.5 sq. centimetres, in the case of vehicles with overall length of more than 6 metres, and not less than 7 sq. centimetres in case of other vehicles.]

[28][(3) All trailers including semi-trailers, other than those drawn by three-wheeled tractors [27][* * *] shall be fitted with the following reflex reflectors, namely,—

(i) two white reflex reflectors in the front, one each at the right and left corners at a height not exceeding 1500 mm above the ground,

(ii) two red reflex reflectors in the rear, one each at the right and left corners at a height not exceeding 1500 mm above the ground, and

(iii) the area of the reflectors referred to above shall not be less than 28.5 sq.cm. in the case of trailers with overall length exceeding 6 metres and shall not be less than 7 sq. cm. in case of other trailers.]

[28][(4) On and after expiry of one year from the date of commencement of the Central Motor Vehicles (Amendment) Rules, 1999, the reflectors referred to in this rule and in rule 110 shall be of reflex type conforming to [29][AIS:057:2005 till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986)].

[30][(5) On and from the date of commencement of the Central Motor Vehicles Rules, 1993, every motor vehicle and trailer of length exceeding 6 meters shall be fitted with two amber colored reflex reflectors on each left hand and right hand of the vehicle, one set as close to the front end as possible and the other set as close to the rear end as possible. The height of the side reflectors above the ground shall not be more than 1500 mm. The area of each reflector shall not be less than 28.5 sq. cm.

Provided that in case the distance between the two side reflectors is more than 3 meters, additional intermediate side reflectors shall be fitted so that the distance between any adjacent side reflector is not more than 3 meters.]

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27. The words "of Engine capacity not exceeding 5 cc" omitted by G.S.R. 589(E), dated 16.9.2005 (w.e.f. 1.4.2006)

28. Substituted by G.S.R. 214(E), dated 18.3.1999 (w.e.f. 18.3.1999)

29. Substituted by G.S.R. 589(E), dated 16.9.2005, for "the Indian Standards IS:8339-1993 specified by the Bureau of Indian Standards" (w.e.f. 1.4.2006)

30. Substituted by G.S.R. 338(E), dated 26.3.1993 (w.e.f. 26.3.1993)

[31][31a][[**104-A. Fitment of reflectors on construction equipment vehicles and combine harvesters.**—All construction equipment vehicles and combine harvesters shall be fitted with—]

(i) two white reflex reflectors in the front of the vehicle on each side and visible to on- coming vehicles from the front at night;

[31b][Provided that in case of combine harvester, the height of front white reflex-reflector shall not be more than 2100 mm above the ground in the case of unobstructed vision from the front and the implement or device shall not obstruct the visibility of the front reflex-reflectors to the oncoming vehicles;]

(ii) two red reflectors in the rear of the vehicle, one each at right and left corners,

at a height not exceeding 1500 mm above the ground in the case of unobstructed vision from the rear and the implement or device shall not obstruct the visibility of the reflectors to the following vehicle;

[32][Provided that in case of combine harvester, the height shall not exceed 2100 mm above the ground;]

(iii) two sets of amber coloured side reflex reflectors, one each on left hand and right hand sides of the vehicle, one set as close to the front end and the other set as close to the rear end as possible to the basic machine without attachments and if the distance between the two amber side reflex reflectors is more than 3 metres, additional intermediate amber side reflex reflectors shall be fitted so that the distance between any adjacent amber side reflex reflector is not more than 3 metres:

[33][Provided that the fitment of reflex reflectors on the implements such as booms of cranes and arms of shovels, shall not be mandatory. However, wherever possible the fitment of these reflectors may be done considering the working environment/nature of these machines in the fields;]

(iv) the reflecting area of each reflex reflector shall not be less than 28.5 sq. cms;

(v) the construction equipment vehicle [32][and combine harvester] shall be fitted with a retro-reflective tape or retro-reflective paint of not less than 20 millimeters width, running across the width of the body at the front and rear, and the colour of the reflective tape or reflective paint shall be white at the front and red at the rear;

(vi) the reflectors referred to in this sub-rule, shall be of reflex type conforming to Indian Standards IS: 8339 specified by the Bureau of Indian Standards;

(vi) the retro-reflective tape and paint shall be as per clause 801 and 803 of Ministry of Surface Transport (Roads Wing) specifications for Road and Bridge works (3rd Revision, 1995) as amended from time to time.]

[34][**104-B. Fitment of reflectors for agricultural tractors**.—(1) Every agricultural tractor manufactured on and after the 1st day of April, 2006 shall be fitted with two non- triangular red reflectors of not less than 7 sq. cm reflecting area one each on both sides at the rear.

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31. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).
31a. Substituted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).
31b. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).
32. Inserted by G.S.R. 212(E), dated 23-3-2015 (w.e.f. 1-4-2015).
33. Substituted by G.S.R. 116(E), dated 27-2-2002, for the proviso (w.e.f. 27-8-2002).
34. inserted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 16-9-2005).

(2) The reflectors referred in sub-rule (1) of this rule shall be of the reflex type conforming to AIS:057:2005 till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).

104-C. Fitment of reflectors on power tillers.—(1) On and from one year from the date of commencement of the Central Motor Vehicles (Fifth Amendment) Rules, 2005, every power tiller shall be fitted with two white reflex reflectors of not less than 7 sq. cm reflecting area in the front of the vehicle one on each side and visible to oncoming vehicles from the front at night, conforming to AIS:057:2005 till corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).

(2) In the case of trailers attached to power tillers, two red reflectors of not less than 7 sq.cm reflecting area in the rear side, one each at right and left corners, at a height not

exceeding 1500 mm above the ground shall also be fitted.]

[32][**104-D. Fitment of retro-reflective tapes or reflectors and rear marking plate on modular hydraulic trailer**.- (1) Every modular hydraulic trailer shall be fitted with two red reflective tapes having width not less than 50 mm at the rear and front and amber reflective tape having width not less than 50 mm on the sides, conforming to AIS:090:2005, as amended from time to time, till the corresponding Bureau of Indian Standard specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).

(2) Every modular hydraulic trailer shall be fitted with two red reflex reflectors having area not less than 28.5 sq. cm. and shall be fitted one each on left and right hand sides at the rear and front and amber reflex reflector having area not less than 28.5 sq. cm on the sides one set as close to the front end and the other set as close to the rear end as possible, conforming to AIS:057:2005, as amended from time to time till the corresponding Bureau of Indian Standards specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).Every Modular hydraulic trailer shall be fitted with rear marking plate confirming to AIS-089.]

105. Lamps.— [35][(1) Save as hereinafter provided, every motor vehicle, while being driven in a public place, during the period half an hour after sunset and at any time when there is no sufficient light, shall be lit with the following lamps which shall render clearly discernible persons and vehicles on the road at a distance of one hundred and fifty five metres ahead:—

(a) in the case of motor vehicle other than three-wheelers, three-wheeled invalid carriages and motor cycles, two or four head lamps;

(b) in the case of motor cycles, three-wheelers and three-wheeled invalid carriages one or two head lamps;

(c) in the case of a side car attached to a motor cycle one lamp showing a white light to the front;]

(d) in the case of construction equipment vehicle [35a][and combine harvester], two or four lamps showing to the front white light visible from a distance of one hundred and fifty five metres ahead.]

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35. Sub-R. (1) substituted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 14-2006).
35a. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

(2) Every such motor vehicle other than a [36][* * *] three-wheeler shall also carry—

(i) [37][two lamps (hereinafter referred to as the rear lamp) showing to the rear a red light visible in the rear from a distance of one hundred and fifty-five metres; and in the case of a motor cycle one lamp showing a red light to the rear visible from a distance of seventy- five metres]; and

(ii) lamp, which may be the rear lamp or some other device, illuminating with a white light the whole of the registration mark exhibited [38][[39][on the rear of the vehicle including construction equipment vehicle] [35a][and combine harvester], and on the side in the case of construction equipment vehicle] [35a][and combine harvester] so as to render it legible from a distance of fifteen metres to the rear:

Provided that when a motor vehicle is drawing another vehicle or vehicles and the distance between such vehicles does not exceed 1.5 metres, it shall be sufficient if the last

drawn vehicle carries a rear lamp or a lamp illuminating the rear registration mark:

[40][Provided further that every construction equipment vehicle [35a][and combine harvester] shall also carry two lamps showing to the rear red lights visible in the rear from a distance of one hundred and fifty- five metres.]

[41][(3) On and from the commencement of the Central Motor Vehicles (Amendment) Rules, 1993, all the obligatory front head lamps of a motor vehicle other than motor cycles shall be as nearly as possible of the same power and fixed at a height as specified in Indian Standards [37][IS: 8415—1977] (clause 4.1):

Provided that in the case of four-wheel drive cross country vehicles, the maximum height of the said front head lamps may be as per limits specified in Indian Standards [37][IS: 8415—1977] (clause 4.1.1):

[42][* * *]

Provided further that on and from the commencement of the Central Motor Vehicles (Amendment) Rules, 1993, all vehicles other than three-wheelers of engine capacity less than 500 cc, motor cycles and three-wheeled invalid carriages manufactured shall be fitted with two rear lamps showing red light to the rear.]

[42a][(3-A) On and from the commencement of the Central Motor Vehicles (Sixth Amendment) Rules, 2000, all the obligatory front head lamps of a construction equipment vehicle shall be as nearly as possible of the same power and fixed at a height so that front visibility is maintained and farthermost point of equipment/attachment is clearly seen by on-coming traffic]

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36. The words "a motor cycle and" omitted by G.S.R. 214(E), dated 18-3-1999 (w.e.f. 18-3-1999).
37. Substituted by G.S.R. 214(E), dated 18-3-1999 (w.e.f. 18-3-1999).
38. Substituted by G.S.R. 642(E), dated 28-7-2000, for "on the rear of the vehicle" (w.e.f. 28-7-2000).
39. Substituted by G.S.R. 116(E), dated 27-2-2002, for "on the rear of the vehicle" (w.e.f. 27-8- 2002).
40. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).
41. Substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
42. Proviso omitted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).
42a. Inserted by G.S.R. 642 (E), dted 28.7.2000 (w.e.f. 28.7.2000)

[43][(3-B) All the obligatory front head lamps of a combine harvester shall be as nearly as possible of the same power and fixed at a height so that front visibility is maintained and farthermost point of equipment or attachment is clearly seen by oncoming traffic.]

(4) The rear lamp shall be fixed either on the centre line of the vehicle or to the right hand side, and save in the case of a transport vehicle, at a height of not exceeding one metre above the ground:

[44][* * *]

(5) In the case of a transport vehicle, the rear light may be fixed at such level as may be necessary to illuminate the registration mark.

(6) Every heavy goods carriage [45][including trailers] shall be fitted with a red indicator lamp of size of thirty centimetres by ten centimetres on the extreme rear most body cross beam and in the case of a vehicle not constructed with body in the rear, the indicator lamp shall be fitted near the right rear light above the rear number plate:

[46][Provided that every construction equipment vehicle of an unconventional or extraordinary type in travel mode shall be fitted or installed with a red indicator lamp of

size of not less than 100 square centimetres on the extreme rearmost point of the body.]

[45][(7) On and from the date of commencement of the Central Motor Vehicles (Amendment) Rules, 1999, every motor vehicle manufactured shall be fitted with at least one lamp which shall automatically be operated, throwing a white light to the rear, when the vehicle is being driven in the reverse gear.]

[47][(8) In the case of vehicles, other than three-wheelers of engine capacity not exceeding 500 CC, which are attached with trailers, all the lamps required to be fitted on the rear of the vehicle shall be fitted at the rear of the trailer.]

[48][(8-A) On the commencement of the Central Motor Vehicles (Sixth Amendment) Rules, 2000, every construction equipment vehicle shall be fitted with two lamps at the rear throwing light to the rear when the vehicle is being driven in the reverse gear and there shall also be an audible warning system operating when the vehicle is being driven in the reverse gear, the audible warning system and the light being automatically operated when the vehicle is in reverse gear.]

[43][(8-B) Every combine harvester shall be fitted with two lamps at the rear throwing light to the rear when the vehicle is being driven in the reverse gear and there shall also be an audible warning system operating when the vehicle is being driven in the reverse gear so that the audible warning system and the light are automatically operated when the vehicle is in reverse gear.]

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43. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).
44. Proviso omitted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).
45. Substituted by G.S.R. 214(E), dated 18-3-1999 (w.e.f. 18-3-1999).
46. Added by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).
47. Inserted by G.S.R. 214(E), dated 18-3-1999 (w.e.f. 18-3-1999).
48. Added by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000). Previously inserted by G.S.R. 214(E), dated 18-3-1999. [There seems to be some confusion/mistake in the language of CI. 13(f) of G.S.R. 214(E), dated 18-3-1999 and CI. 13(e) of G.S.R. 642(E), dated 28-7-2000—Ed.]

106. Deflection of lights.—[49][(1) No head lamp showing a light to the front shall be used on any motor vehicle including agricultural tractor and construction equipment vehicle [43][and combine harvester] (whether fitted with single or dual head lamp) unless such lamp is so constructed, fitted and maintained that the beam of light emitted there from meet the requirements of respective safety standards notified under rules 124 and 124-A.]

[50][* * *]

[51][107. Top lights.—Every goods vehicle including trailer and semi-trailer other than three-wheelers and vehicles with overall width not exceeding 2.1 metres shall be fitted with two white lights at the top right and left corners [52][showing white light to the front] and two red lights at the top right and [52][showing red light to the rear]. The lights shall remain lit when the vehicle is kept stationary on the road during night and at the time of poor visibility:

Provided that in the case of goods carriage without a full body in the rear, provision for fitting of the top light at the rear shall not be necessary.]

[53][107-A. **Implement lights for construction equipment vehicle.**— Construction equipment vehicle having implements with front overhang greater than 60% of wheelbase shall be fixed with additional implement light of amber colour at a location nearest to the extreme edge of the implement without affecting the functions of showing light in all directions and where the implement is more than 3 metres in length, additional amber coloured lamps shall be fixed at a distance of not exceeding 3 metres for the entire length of the implement:

Provided that in case of rear overhang the additional implement lights shall be in red colour.]

[54][108. **Use of red, white or blue light.—**](1) No motor vehicle shall show a red light to the front or light other than red to rear:

Provided that the provisions of this rule shall not apply to—

(i) the internal lighting of the vehicle; or

(ii) the amber light, if displayed by any direction indicator or top light or as top light used on vehicle for operating within the premises like airports, ports without going outside the said premises on to public roads;

(iii) a vehicle carrying high dignitaries as specified by the Central Government or the State Government, as the case may be, from time to time;

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49. Substituted by G.S.R. 291(E), dated 24-4-2014 (w.e.f. 24-4-2014).
50. Sub-R. (2) omitted by G.S.R. 291(E), dated 24-4-2014 (w.e.f. 24-4-2014).
51. Substituted by G.S.R 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
52. Substituted by G.S.R. 214(E), dated 18-3-1999 (w.e.f. 18-3-1999).
53. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000)
54. Substituted by G.S.R. 400(E), dated 31-5-2002 (w.e.f. 31-5-2002).

[54a](iv) the blinker type of red light with purple glass fitted to an ambulance van used for carrying patients; or
(v) to a vehicle having a lamp fitted with an electrical bulb, if the power of the bulb does not exceed seven watts and the lamp is fitted with frosted glass or any other material which has the effect of diffusing the light;
(vi) white light illuminating the rear number plate;
(vii) white light used while reversing;
(viii) plough light provided in agricultural tractors for illuminating the implement's working area on the ground in agricultural field operations.
(2) Use of blue light with flasher shall be determined and notified by the State Governments at their discretion.
(3) Use of blue light with or without flasher shall be permitted as top light on vehicles escorting high dignitaries entitled to the use of red light.
(4) Use of multi-coloured red, blue and white light shall be permitted only on vehicles specifically designated for emergency duties and shall be specifically specified by State Governments.
(5) The State Government shall inform the Central Government regarding publication of notifications issued by the concerned State Government under sub-rule (2) and under clause *(e)* of the Notification No. S.O. 52(E), dated 11th January, 2002, published in the Gazette of India, Ministry of Road Transport and Highways, regarding use of red light on top of vehicle being used by dignitaries.
(6) In case vehicle is not carrying dignitaries, red or blue light, as the case may be, light shall not be used and be covered by black cover.]
[55][(7) On and after the 1st April, 2018, the top lights (warning lamps) fitted on Road Ambulances shall be in accordance with AIS:125(Part 1):2014, as amended from time to time for all types of ambulances specified therein, till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).]

[55][55a][108-A. Use of red or white light on construction equipment vehicles and combine harvesters].—No construction equipment vehicle **[55b]**[and combine harvester] shall show a red light to the front or light other than red to the rear:

Provided that the provision of this rule shall not apply to:—

(i) the internal lighting of the vehicle;
(ii) the amber light, if displayed by any direction indicator or top light;
(iii) white light illuminating the rear or side registration number plate;
(iv) white light used while reversing;
(v) light provided for illuminating the implement's working area on the ground in off-highway or construction operations.]

[55b][108-B. Use of beacon or blinking lamp on puller tractor.— The puller tractor shall be fitted with two beacon or blinking lamps, which are amber in color, one each on left and right hand side on top of the cabin.]

54a. Substituted by G.S.R. 868(E), dated 8.9.2016 (w.e.f. 1.4.2018)
55. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).
55a. Substituted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).
55b. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

[56][**109. Parking light**.—[57][[55b][Every construction equipment vehicle, combine harvester and motor vehicle] and every motor vehicle other than] [58][* * *]] motor cycles and three-wheeled invalid carriages shall be provided with one white or amber parking light on each side in the front. In addition to the front lights, two red parking lights one on each side in the rear shall be provided. The front and rear parking lights shall remain lit even when the vehicle is kept stationary on the road:

Provided that these rear lamps can be the same as the rear lamps referred to in rule 105, sub-rule (2):

59[* * *]]

[56][Provided also that construction equipment vehicles [55c][and combine harvesters], which are installed with flood light lamps or spot lights at the front, rear or side of the vehicle for their off-highway or construction operations, shall have separate control for such lamps or lights and these shall be permanently switched off when the vehicle is travelling on the road.]

[56][**110**. [60]**[Lamps on three-wheelers**].—Every [60][three-wheeler] shall be fitted with one front head lamp and [61][two side white or amber lights] or two front lamps on the body. In addition to the front lamp or side lights, it shall be fitted with [61][two rear lamps showing to the rear red light] visible from a distance of 75 metres and a white light illuminating the registration mark exhibited on the rear of the vehicle so as to render it legible from a distance of 15 metres; and also two red reflex reflectors each having a reflecting area of not less than seven square centimetres:

Provided in case where these vehicles are attached with trailers, the rear fitments mentioned in this rule and direction indicator system mentioned in rule 102 shall also be provided at the rear of the trailer:]

[62][Provided further that fitment of one head lamp shall be applicable only in case of three-wheelers with overall width not exceeding 1400 mm and in such cases the side lights shall be amber in colour.]

111. Prohibition of spot lights, etc.—No spot light or search light shall be carried on the front of any vehicle except in exceptional circumstances with the prior approval of the registering authority.

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56. Substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
57. Substituted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).
58. The words "three wheelers of engine capacity not exceeding 500 cc" omitted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 1-4-2006).
59. Proviso omitted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).
60. Substituted by G.S.R. 589(E), dated 16-9-2005, (w.e.f. 1-4-2006).
61. Substituted by G.S.R. 214(E), dated 18-3-1999 (w.e.f. 18-3-1999).
62. Proviso inserted by G.S.R. 589(E), dated 16-9-2005 (w.e.f. 1-4-2006).

Smoke, vapour, spark, ashes, grit and oil

112. Exhaust gases.—Every motor vehicle shall be so constructed or equipped that the exhaust gases from the engine are discharged neither downward nor to the left side of the vehicle and shall be so fitted as to allow the gases to escape to the right side or rear of the vehicle:

Provided that in the case of tankers carrying explosives and inflammable goods, the fitment of exhaust pipe shall be according to the specification of the Inspector of Explosives:

[63][Provided further that in the vehicles where the exhaust gases are discharged to the right of the vehicle, slight downward angle shall be permitted, provided the exhaust gases do not kick up any dust when the vehicle is stationary and engine running and in any case the angle of the pipe to the horizontal should not be more than 30 degrees:

Provided also that where the exhaust gases are discharged to the left of the vehicle the inclination of exhaust pipe should not cross 30 degrees in downward and 30 degrees in left direction against the vertical plane which includes the vehicle centre line, provided the exhaust gases do not take up any dust when the vehicle is stationary and engine running:

[64][Provided further that in the case of agricultural tractors, vertical or horizontal] exhaust pipe may be provided and outlet of this pipe should be so directed that the driver of the tractor is not exposed to exhaust gases by locating the outlet over or to the side of head- level of the driver as per Indian Standards IS: 12239 (Part 1)—1988:]

[65][Provided also that in the case of construction equipment vehicle [65a][and combine harvester] vertical exhaust pipe may be fitted and outlet of this pipe shall be so directed that the driver of the vehicle is not exposed to exhaust gases.]

113. Location of exhaust pipes.—On and from the date of commencement of this sub-rule, [66][no exhaust pipe of a motor vehicle including construction equipment vehicle] [65a][and combine harvester] shall be located within a distance of 35 millimeters from the fuel line connecting to the fuel tank and engine.

114. Exhaust pipes of public service vehicles.—The exhaust pipe of every public service vehicle shall be so fitted or shielded that no inflammable material is thrown upon it from any other part of the vehicle and that it is not likely to cause a fire through proximity to any inflammable material on the vehicle.

Emission of smoke, vapour, etc., from motor vehicles

115. Emission of smoke, vapour, etc. from motor vehicles.— [63][(1) Every motor vehicle other than motor cycles of engine capacity not exceeding 70 cc, manufactured prior to the first day of March 1990, shall be maintained in such condition and shall be so driven so as to comply with the standards prescribed in these rules.]

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63. Substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
64. Substituted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).
65. Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).
65a. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).
66. Substituted by G.S.R. 116(E), dated 27-2-2002, for "no exhaust pipe" (w.e.f. 27-8-2002).

[67][(2) On and after 1st October, 2004, every motor vehicle operating on—

(i) Petrol/CNG/LPG shall comply with the idling emission standards for Carbonmonoxide (CO) and Hydrocarbon (HC) given in the Table below:—

[68][TABLE

PETROL/CNG/LPG DRIVEN VEHICLES

SI. No.	Vehicle Type	Co %	*HC(n-hexane equivalent) ppm
1.	Two Wheelers (2/4 - Stroke) (Vehicles manufactured on and before 31st March, 2000)	4.5	9,000
2.	Two Wheelers (2-stroke) (Vehicles manufactured after 31st March, 2000 and 31st March, 2010)	3.5	6,000
3.	Two Wheelers (4-stroke) (Vehicles manufactured between 31st March, 2000 and 31st March 2010)	3.5	4,500
4.	Two Wheelers (2-Stroke) (Vehicles manufactured after 31st March, 2010)	3.0	4,000
5.	Two Wheelers (4-Stroke) (Vehicles manufactured after 31st March, 2010)	3.0	3,000
6.	Three Wheelers (2/4 – Stroke) (Vehicles manufactured on and before 31st March, 2000)	4.5	9,000
7.	Three Wheelers (2 – Stroke) (Vehicles manufactured after 31st March, 2000)	3.5	6,000
8.	Three Wheelers (4 – Stroke) (Vehicles manufactured after 31st March, 2000)	3.5	4,500
9.	Four Wheelers manufactured as per pre-Bharat Stage II emission norms	3.0	1,500
10.	Four Wheelers manufactured as per Bharat Stage-II or Bharat Stage-III Emission norms	0.5	750]

[69][Provided that every motor vehicle operating or Petrol/ Compressed Natural Gas/Liquefied Petroleum Gas, manufactured as per Bharat Stage-IV norms shall comply with the idling and high idling applicable emission standards for Carbon Monoxide (CO), Hydro Carbon (HC) and Lambda given in the following Table, namely:-

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67. Sub-R. (2) substituted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004) and as corrected by vide G.S.R. 176(E), dated 5-3-2004.

68. Substituted by G.S.R. 277(E), dated 11-4-2014 (w.e.f. 1-10-2014).

69. Inserted by G.S.R. 103(E), dated 23-2-2012 (w.e.f. 23-2-2013).

TABLE

PETROL/COMPRESSED NATRUAL GAS/LIQUEFIED PETROLEUM GAS DRIVEN VEHICLES, MANUFACTURED AS PER BHARAT STAGE-IV NORMS.

Sr. No.	Type of vehicle	Idle emission limits	High idle emission limits
(1)	(2)	(3)	(4)
		CO% HC (n hexane equivalent) ppm	CO% Lambda λ (RPM-2500±200
1.	Compressed Natural Gas/ Liquefied Petroleum Gas driven 4-wheelers manufactured as per [69a][Bharat Stage-IV or Bharat Stage-IV]norms	0.3% 200 ppm	
2.	Petrol driven 4-wheelers manufactured as per [70][Bharat Stage-IV or Bharat Stage-VI] norms	0.3% 200 ppm	0.2 1 ± 0.03 or as declared by the vehicle manufacturer.]

Note.—The test shall be carried out using the instrument type approved as per rule 116(3) of the Central Motor Vehicles Rules, 1989 (CMVR) with the vehicle engine warmed up after a run of minimum 15 minutes on a variable course under normal traffic condition. During the test the vehicle engine shall be running at idling speed and the sampling probe shall be inserted into the vehicle exhaust system to a depth not less than 300mm. In case CO and/or HC emission values recorded during the test are not within the limits, the testing shall be discontinued and the vehicle owner shall be advised to resubmit the vehicle after repair/service.

*The idling emission standards for vehicles when operating on Compressed Natural Gas (CNG), shall contain Non-Methane Hydrocarbon (NMHC) in place of Hydrocarbon (HC) and shall be estimated by the following formula:

NMHC=0.3xHC

Where HC= Total Hydrocarbon measured as n-hexane equivalent. Similarly idling emission standards for vehicles when operating on Liquefied Petroleum Gas (LPG) shall contain Reactive Hydroharbon (RHC) in place of Hydrocarbon (HC) and shall be estimated by the following formula:

RHC=0.5 x HC

Where HC= Total Hydrocarbon measured as n-hexane equivalent:

69a. Substituted by G.S.R. 889(E), dated 16-9-2016 (w.e.f. 16-9-2016).

70. Substituted by G.S.R.(E), dated 16-9-2016 (w.e.f. 16-9-2016).

Provided that in case of Petrol vehicles fitted with three-way closed loop catalytic

converters operating in a specific city or area, the Government of the respective State or Union Territory Administration, as the case may be, may, by notification in the Official Gazette, specify the introduction of measurement of LAMBDA (dimensionless value representing burning efficiency of an engine in terms of the air/fuel ratio in the exhaust gases) and tighter emission norms for in-use vehicles with such periodicity as may be warranted, after ensuring that gas analyzers capable of measuring the values, duly approved by the testing agencies, are available in such city or area, as the case may be:

Provided further that testing procedures are prescribed in TAP documents Nos. 115 and 116 as amended from time to time:

Provided also that the compliance to the limits prescribed in the above proviso shall be included in the certificate issued by the vehicle manufacturer in Form 22 or Form 22-A, as applicable for the vehicle manufactured on or after 1st October, 2004:

[70a][Provided that in the case of CNG/LPG motor vehicles operating on Bi-fuel mode, the test shall be conducted only on CNG/LPG mode.]

(ii) Smoke density for all diesel-driven vehicles shall be as follows:—

[71][TABLE

DIESEL VEHICLES

Method of Test	Maximum Smoke Density	
	Light absorption Coefficient (1/m)	Hartidge units
Free acceleration test for turbo charged engine and naturally aspired engine for vehicles manufactured as per pre [70][Bharat Stage-IV or Bharat Stage-VI] norms.	2.45	65
Free acceleration test for turbo charged engine and naturally aspired engine for vehicles manufactured as per [70][Bharat Stage-IV or Bharat Stage-VI] norms.	1.62	50]

[72][The free acceleration test shall be carried out using meter type-approved under sub-rule (3) of rule 116 as given under:-

(a) three times flushing by free acceleration to be undertaken with or without the sampling probe in the vehicle exhause, and average maximum rpm of the three flushing to be recorded;

70a. Inserted by G.S.R. 84(E), dated 9-2-2009 (w.e.f. 9-2-2009).

71. Substituted by G.S.R. 103(E), dated 23-2-2012 (w.e.f. 23-2-2013).

72. Substituted by G.S.R. 498(E), dated 16-6-2015 (w.e.f. 16-6-2015).

(b) thereafter, with sample probe inserted in vehicle exhaust during

each free acceleration, maximum no-load rpm reached shall be within the bandwidth of ± 500 rpm of the average value in respect of 3-wheeled vehicles and ± 300rpm of the average value for all other categories of vehicles;
(c) the free acceleration test, mentioned in (b) above, shall be repeated minimum three times;
(d) the smoke density to be recorded shall be arithmetic mean of these three readings;
(e) In case the smoke density recorded is not within the limits, then, the test may be repeated with engine oil temperature measured by a probe in the oil level dipstick tube to be at least 60^0C:]

Provided that the above test shall not be carried out if the On Board Diagnostic (OBD) Malfunction Indicator Lamp (MIL) of BS-IV vehicles is switched on; in such cases, the vehicle shall be re-submitted for the above test after repair or servicing:

Provided further that only for Type Approval purposes, all new models type-approved on or before the commencement of the Central Motor Vehicles (Tenth Amendment) Rules, 2015 and complying with the requirements of free acceleration smoke as provided in the Central Motor Vehicles (Amendment) Rules, 2012, published *vide* notification number G.S.R. 103(E), dated 23rd February 2012, need not be re type-approved for compliance to this sub-rule.]]

(3) On and from the date[72a] of commencement of this sub-rule, all petrol-driven vehicles shall be so manufactured that they comply with the mass emission standards as specified at Annexure I. The breakdown of the operating cycle used for the test shall be as specified at Annexure II, and the reference fuel for all such tests shall be specified in Annexure III to these rules.

(4) On and from the date[72] of commencement of this sub-rule, all diesel-driven Vehicles shall be so manufactured that they comply with the standards based on exhaust gas opacity as specified at Annexure IV to these rules.

(5) On and from the date[72] of commencement of this sub-rule, all petrol-driven vehicles shall be so manufactured that they comply with the following levels of emissions[73] [when tested as per test cycle specified in Annexure V]:—

Mass of Carbon Monoxide (CO)	Mass of Hydrocarbons (HC)	Mass of Nitrogen Oxides (NO)
Maximum grams per KWH	Maximum grams per KWH	Maximum grams per KWH
14	3.5	18

[74] [Provided the standards for exhaust gas emissions applicable to agricultural tractors shall be notified separately.]

72a. Brought into force on 1st day of April, 1991 vide S.O.869(E), dated 27-10-1989.
73. Substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
74. Inserted by G.S.R 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).

(6) Each motor vehicle manufactured on and after the dates specified in sub-rule (2), (3), (4) or (5), shall be certified by the manufacturers to be conforming to the standards

specified in the said sub-sections, and further certify that the components liable to effect the emission of gaseous pollutants are so designed, constructed and assembled as to enable the vehicle, in normal use, despite the vibration to which it may be subjected, to comply with the provisions of the said sub-rule.

[74][(7) After the expiry of a period of one year from the date on which the motor vehicle was first registered, every such vehicle shall carry a valid "Pollution under control" certificate issued by an agency authorized for this purpose by the State Government. The validity of the certificate shall be for [75][six months] and the certificate shall always be carried in the vehicle and produced on demand by the officers referred to in sub-rule (1) of rule 116.

[75a][Provided that the validity of the certificate shall be twelve months for the vehicles manufactured as per Bharat State-IV norms.]

(8) The certificate issued under sub-rule (7) shall, while it remains effective, be valid throughout India.]

[76][(9) Mass emission standard for diesel vehicles

Type approval tests

Vehicle Category	HC* (g/KWH)	CO* (g/KWH)	NOx (g/KWH)	Smoke
Medium & Heavy over 3.5 Ton/GVW Light diesel upto 3.5 Ton/GVW or	2.4 2.4	11.2 11.2	14.4 14.4	*** ***
Reference mass R(Kg)	CO** g/KM		HC+NOx g/KM	***
R<1020 1020<R<1250 1250<R< 1470 1470<R< 1700 1700<R<1930 1930<R<2150 R<2150	5.0 5.7 6.4 7.0 7.7 8.2 9.0		2.0 2.2 2.5 2.7 2.9 3.5 4.0	

Note:

*The test cycle is as per 13 mode cycle on dynamometer.

** The test should be as per Indian driving cycle with cold start.

***The emissions of visible pollutants (smoke) shall not exceed the limit value to smoke density. When expressed as light absorption coefficient given below for various nominal flows when tested as constant speeds over full load. (As indicated at Annexure I).

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75. Substituted by G.S.R. 111(E), dated 10-2-2004, for "six months or any lesser period as may be specified by the State Government from time to time" (w.e.f. 10-8-2004).

75a. Substituted by G.S.R. 103(E), dated 23-2-2012 (w.e.f. 23-2-2012).

76. Substituted by G.S.R. 163(E), dated 29-3-1996 (w.e.f. 1-4-1996). Earlier sub-R (9) was added by G.S.R. 609(E), dated 15-9-1993 (w.e.f. 15-9-1993).

COP STANDARDS

*10% relaxation in the standards for HC, CO and NOx would be given.

**10% relaxation in the standards for CO and combined HC+NOx would be given.

[77][Mass emission standard for petrol-driven vehicles—Effective from 1st April, 1998

(i) *Passenger Cars*—

Type approval tests				
Cubic Capacity (cm^3)	Carbon Monoxide (gm/km)		HC+NOx (gm/km)	
	Passenger cars fitted with catalytic converter	Passenger cars not fitted with catalytic converter	Passenger cars fitted With catalytic converter	Passenger cars not fitted with catalytic converter
<1400	4.34	8.68	1.50	3.00
>1400<2000	5.60	11.20	1.92	3.84
>2000	6.20	12.40	2.18	4.36

Notes.—1. The tests will be as per Indian driving cycle with warm start. However, with effect from 1st April, 1998, the test will be as per Indian driving cycle with cold start for catalytic converter fitted vehicles as:—

Soak Temperature	=	20°-30°C
Soak Period	=	6.30 hrs
Preparatory running before sampling	=	4 cycles
Number of test cycles	=	6
Break down of cycles	=	Indian driving cycle as per Annexure

2. For passenger cars not fitted with catalytic converters, the test will continue to be with warm start as per existing procedure, till 1-4-2000.
3. There should be no crankcase emission.
4. Evaporative emission should not be more than 2.0g/test.
5. COP standards: 20% relaxation in the standards for Carbon Monoxide and combined HC + NOx would be given.
6. For vehicles fitted with catalytic converter a deterioration factor of 1.2 on Type- Approval Limits will be applicable for durability.]

1. The test will be as per Indian driving cycle with warm start. However, with effect from 1st April, 1998, the test will be as per Indian driving cycle with cold start.
2. COP standards: 20% relaxation in the standards for Carbon Monoxide and combined HC + NOx would be given.

77. Substituted by G.S.R. 46(E), dated 21-1-1998 (w.e.f. 1-4-1998).

(ii) Three wheelers (for all categories) -

CO	Gms/km	6.75
HC+NOx	Gms/km	5.40

Note : (1)The test will be as per Indian driving cycle with warm start. However, with effect from 1st April, 1998, the test will be as per Indian driving cycle with cold start.
(2) COP standards: 20% relaxation in the standards for Carbon Monoxide and combined HC+NOx would be given.

ANNEXURE I

Nominal Flow G(1/2)	Light Absorption (K(1/m))	Nominal Flow G(1/2)	Light Absorption (K(1/m))
42	2.26	120	1.37
45	2.19	125	1.345
50	2.08	130	1.32
55	1.985	135	1.30
60	1.90	140	1.27
65	1.84	145	1.25
70	1.775	150	1.205
75	1.72	160	1.19
80	1.665	165	1.17
85	1.62	170	1.155
90	1.575	175	1.14
95	1.535	180	1.125
100	1.495	185	1.11
105	1.465	190	1 095
110	1.425	195	1.08
115	1.395	200	1.065]

[78][[79][(10) Mass Emission Standards for vehicles manufactured on and after 1st June, 1999 in case of National Capital Region of Delhi and in other cases on and after 1st April, 2000]

A. For Petrol-Driven Vehicles

(1) Passenger Cars	CO(g/km)	HC+NOx(g/km)
Type Approval	2.72	0.97
Conformity of Production	3.16	1,13

Notes.—The test shall be as per the modified Indian driving cycle, with cold start, as specified in Annexure IV-B, on Chassis Dynamometer. There should be no crankcase emission.

78. Sub-R (10) inserted by G.S.R. 493(E), dated 28-8-1997 (w.e.f. 1-4-2000).
79. Substituted by G.S.R. 399(E), dated 1-6-1999, for "10. Mass Emission Standards for vehicles manufactured on and after 1st April, 2000" (w.e.f. 1-6-1999).

Evaporative emission should not be more than 2.0g/test.

For vehicles fitted with catalytic converter, a deterioration factor of 1.2 on Type Approval Limits will be applicable for durability.
Commercial fuel shall be as notified by the Ministry of Environment and Forests *Vide* Notification No. G.S.R. 176(E), dated the 2nd April, 1996.

Reference test fuel shall be as specified in Annexure IV-C.

2-Wheelers and 3-Wheelers	CO(g/km)		HC+NOx(g/km)	
	2-Wheeler	3-Wheeler	2-Wheeler	3-Wheeler
Type Approval	2.0	4.0	2.0	2.0
Conformity of Production	2.4	4.8	2.4	2.4

Notes.—The test shall be as per the Indian driving cycle, with cold start, on Chassis Dynamometer as specified in Annexure IV-B to the principal rules.
Commercial fuel shall be as notified by the Ministry of Environment and Forests *vide* Notification No. G.S.R. 176(E), dated the 2nd April, 1996.

Reference test fuel shall be as specified in Annexure IV-C.

[80][For 2-wheelers and 3-wheelers fitted with catalytic converter, a deterioration factor of 1.2 on Type Approval Limits, will be applicable for durability:

Provided that the vehicle manufacturers may opt for an ageing test of 30,000 kms for evaluating deterioration factor, as per procedure that may be laid down by the Central Government.]

B. For Diesel Vehicles (Including Two and Three-Wheelers)

I. Vehicles with GVW exceeding 3.5 ton

Pollutants	Limits for	
	Type Approval	Conformity of Production
CC(g/K Wh	4.5	4.9
HC(g/k Wh	1.1	1.23
NOx(g/k Wh	8.0	9.0
PM(g/k Wh) for engines with power exceeding 85kW	0.36	0.4
PM(g/k Wh) or engines with power not exceeding 85k W	0.36	0.4

II. Vehicles with G VW equal to or less than 3.5 ton

80. Inserted by G.S.R. 400(E), dated 31-5-2002 (w.e.f. 31-5-2002).

Pollutants	Limits for	
	Type Approval	Conformity of
CO(g/k Wh)	4.5	4.9

HC(g/k Wh)	1,1	1.23
NOx (g/k Wh)	8.0	9.0
PM(g/k Wh) for engines with power exceeding 85kW	0.36	0.4
PM(g/ k Wh) for engines with power equal to or	0.61	0.68

Or Chassis Dynamometer Test

Reference Mass (kg)	Limits for Type Approval gm/km			Limits for conformity of Production gm/km		
	CO	HC+NOx	PM	CO	HC+NOx	PM
R<1250	2.72	0.97	0.14	3.16	1.13	0.18
1250<R<1700	5.17	1.40	0.19	6.0	1.60	0.22
1700<R	6.90	1.70	0.25	8.0	2.0	0.29

Notes.—The test for vehicles with GVW equal to or less than 3.5 ton shall be as per the 13 mode cycle on engine dynamometer specified in Annexure IV-A to the principal rules.

The test shall be as per the Indian driving cycle, for 2-Wheelers and 3-

Wheelers and modified Indian driving cycle for 4-Wheelers with cold start, as specified in Annexure IV- B on Chassis Dynamometer.

For vehicles fitted with catalytic converters a deterioration factor 1.1 of CO;

1.0 for HC+NOx and 1.2 for PM on type approval limits will be applicable for durability.

The emission of visible pollutants (smoke) shall not exceed the limit value to smoke density, when expressed as light absorption co-efficient for various nominal flows as in Annexure I to rule 115(9), (Notification No. G.S.R. 163(E), dated 29th March, 1996), when tested at constant speeds over full load. These smoke limits are without correction factor and engines are to be tested with conditioned air supplied to the engine to maintain atmospheric factor of 0.98 to 1.02.

Commercial fuel shall be as notified by the Ministry of Environment and Forests *vide* Notification No. G.S.R. 176(E), dated the 2nd April, 1996.

Reference test fuel shall be as specified in Annexure IV-D.]

[81] For 2-wheelers and 3-wheelers fitted with catalytic converter, the deterioration factor shall be as follows:

CO=1.1; HC + NOx = 1.0; PM=1.2:

Provided that the vehicle manufacturers may opt for an ageing test of 30,000 kms for evaluating deterioration factor, as per procedure that may be laid down by the Central Government:

Provided further that the above provisions shall come into force after six months from the publication of the notification.]

[82] [(11) Mass Emission Standards (Bharat Stage II):—

(A) Motor Cars with seating capacity *of* and up to 6 persons (including driver) and Gross Vehicle Mass (GVM) not exceeding 2500 kg.

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81. Inserted by G.S.R. 400(E), dated 31-5-2002 (w.e.f. 31-5-2002).

82. Inserted by G.S.R. 77(E), dated 31-1-2000. Brought into force in the National Capital Region w.e.f. 1-4-2000 vide G.S.R. 77(E), dated 31-1-2000, in Mumbai (including Greater Mumbai) w.e.f. 1-1-2001 and in Calcutta and Chennai w.e.f. 1-7-2001 vide G.S.R. 779(E), dated 29-8-2000.

	Standards (Type Approval=COP)(g/km)		
Vehicles with	CO	(HC+NOx)	PM

Gasoline engine	2.2	0.5	—
Diesel engine	1.0	0.7	0.08

(B) Four-Wheeler Passenger Vehicles with GVW equal to or less than 3500 kg and designed to carry more than 6 persons (including driver) or maximum mass of which exceeds 2500 kg.

Class	Ref. Mass(rw) kg	Limit Values for Type Approval (TA) as well as COP				
		Mass of C	0(g/km)	Mass of HC+NOx(g/km)		Mass of PM(g/km)
		Case line	Diesel	Gasoline	Diesel	Diesel
I	rw<1250	2.2	1.0	0.5	0.7	0.08
II	l250<rw<1700	4.0	1.25	0.6	1.0	0.12
III	I700<rw	5.0	1.5	0.7	1.2	0.17

Notes:—

1. The test including driving cycle shall be as per sub-rule (10), with the modifications that:—

(i) there shall be no relaxation of norms for COP purposes,

(ii) the tests shall be on Chassis dynamometer,

(iii) the driving cycle shall be at a maximum speed of 90 kmph, and

(iv) the reference fuel shall be of a maximum of 0.05% sulphur content.

2. Commercial fuel for meeting above norms shall be upto 0.05% mass maximum sulphur content.

3. There shall be no crankcase emissions for petrol-driven vehicles.

4. Evaporative emission shall not be more than 2.0g/ test from petrol-driven

5. For the above vehicles when fitted with catalytic converter deterioration factor shall be as follows:—.

Gasoline engines: CO=1.2; (HC+NOx)=1.2;

Diesel engines:CO=1.1;(HC+NOx)=1.0;PM=1.2:

Provided that the vehicle manufacturers may opt for an ageing test of 80,000 kms for evaluating deterioration factor, as per procedure that may be laid down by the Central Government.

6. For diesel engine vehicles, the emission of visible pollutants (smoke) shall not exceed the limit value to smoke density, when expressed as light absorption coefficient for various nominal flows as in Annexure I to rule 115(9) when tested at constant speeds over full load.]

[83][(C) Four-Wheeled Vehicles (other than passenger vehicles) with GVW equal to or less than 3500 kg shall conform the following norms:—

Engine Dynamometer Test

Limit Values for Type Approval (TA) as well as (COP)

CO(g/kWh)	HC (g/kWh)	NOx (g/kWh)	PM (g/kWh)
4.0	1.1	7.0	0.15

Or Chassis Dynamometer Test

Class	Ref. Mass (RM) Kg	Mass of CO (g/km)		Mass of HC+NOx (g/km)		Mass of PM(g/km)
	RM	Gasoline	Diesel	Gasoline	Diesel	
I	RM < 1250	2.2	1.0	0.5	0.7	0.08
II	1250 <RM< 1700	4.0	1.25	0.6	1.0	0.12
III	1700 < RM	5.0	1.5	0.7	1.2	0.17

Note:

1. *(a)* There shall be no relaxation for COP purposes.

b) The tests shall be carried out on the engine dynamometer operation as specified in Annexure IV-A of the rules. The tests on Chassis dynamometer shall be as per the driving cycle given in Note of clause (B) of sub-rule (11) of rule 115.

(c) The reference fuel shall be of a maximum of 0.05% mass sulphur content.

2. Commercial fuel for meeting above norms shall be up to 0.05% maximum mass sulphur content.

3. For diesel engined vehicles the emission of visible pollutants (smoke) shall not exceed the limit value to smoke density, when expressed as light absorption coefficient for various nominal flows as in Annexure I to sub-rule (9) of rule 115 when tested at constant speeds over full load. These smoke limits are without correction factor and engines are to be tested with conditioned air supplied to the engine to maintain atmospheric factor of 0.98 to 1.02.

4. For diesel engined vehicles, the free acceleration smoke for naturally aspirated and turbo-charged engines shall not exceed the smoke density limit value as in clause (c) of sub-rule (2) of rule 115.

5. There shall be no crankcase emissions for petrol engined vehicles.

6. Evaporative emission shall not be more than 2.0g/ test from petrol engined vehicles.

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83. Inserted by G.S.R. 286(E), dated 24.4.2001, published in the Gazette of India, dated 24.4.2001, Ext., pt. II, S.3(i), SI.No.198. In the National Capital Territory of Delhi in respect of Vehicles manufactured on or after six months from the date of publication in the Official Gazette, i.e., 24-4-2001 and in respect of the "Four-Wheeled Transport Vehicles" which are plying on Inter-State Permits or on National Permits or on All India Tourist Permits within the jurisdiction of National Capital Territory of Delhi, and in respect of any Vehicles in other areas of country, from such date as the Central Government may, by notification appoint in the Official Gazette, and different dates may be appointed for different areas.

(D) Vehicles with GVW exceeding 3500kg shall conform the following norms:—

Limit Values for Type Approval (TA) as well as (COP)			
CO(g/k Wh)	HC(g/k Wh)	NOx(g/k Wh)	PM(g/k Wh)
4.0	1.1	7.0	0.15

Notes:

1. *(a)* There shall be no relaxation for COP purposes.

(b) The tests shall be carried out on the engine dynamometer operation as specified in Annexure IV-A of the rules.

(c) The reference fuel shall be of a maximum of 0.05% mass sulphur content.

2. Commercial fuel for meeting above norms shall be up to 0.05% mass maximum sulphur content.

3. For diesel engined vehicles, the emission of visible pollutants (smoke) shall not exceed the limit value to smoke density, when expressed as light absorption coefficient for various nominal flow as in Annexure I to sub-rule (9) of rule 115 when tested at constant speeds over full load. These smoke limits are without correction factor and engines are to be tested with conditioned air supplied to the engine to maintain atmospheric factor of 0.98 to 1.02.

4. For diesel engined vehicles, the free acceleration smoke for naturally aspirated and turbo-charged engines shall not exceed the smoke density limit value as in clause (c) of sub-rule (2) of rule 115.]

[84][(12) Mass emission standards (Bharat Stage II) for two-wheeler and three-wheeler manufactured on and from 1st April, 2005 shall be as follows, namely:—

TABLE

Vehicle Category	Pollutants	TA=COP norms	TA = COP D.F.
(1)	(2)	(3)	(4)
Two-wheeler (Petrol)	CO	1.50	1.2
	HC+NOx	1.50	1.2
Three-wheeler (Petrol)	CO	2.25	1.2
	HC+NOx	2.00	1.2
Two-wheeler and three-wheeler (Diesel)	CO	1.00	1.1
	HC+NOx	0.85	1.0
	PM	0.10	1.2

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84. Inserted by G.S.R. 720(E), dated 10-9-2003.

Deterioration Factor, see para (c) below.

(a) The test shall be as per the Indian Driving Cycle with cold start on chassis dynamometer as specified in the Table given below by testing agencies, namely:—

TABLE

Test Cell Conditions	Petrol two-wheeler and three-wheeler	Diesel two-wheeler and three-
(1)	(2)	(3)
Soak Temperature	20-30° C	20-30° C
Soak period	6-30 hours	6-30 hours
Preparatory running before sampling	Idling of 40 seconds and 4 cycles	Idling of 40 seconds
No. of test cycles	6	6
Breakdown of cycles	Indian Driving Cycle as per Annexure II to principal rule	Indian Driving Cycle as per Annexure II to principal rule

(b) Reference fuel for testing shall be in line with that in the ECE;

(c)(i) For all types of two-wheeler and three-wheeler petrol vehicles, a deterioration factor as specified in column (4) in the Table in this sub-rule shall be applicable for durability:

Provided that the vehicle manufacturer may opt for an ageing test of 30,000 kms for evaluating deterioration factor, as per procedure that may be laid down by the Central Government from time to time;

(ii) For all types of two-wheeler and three-wheeler diesel vehicles, a deterioration factor as specified in column (4) in the Table in this sub-rule shall be applicable for durability:

Provided that the vehicle manufacturer may opt for an ageing test of 30,000 kms for evaluating deterioration factor, as per procedure that may be laid down by the Central Government from time to time;

(d) For diesel engine vehicles, the emission of visible pollutants (smoke) shall not exceed the limit value to smoke density, when expressed as light absorption co-efficient for various nominal flow as indicated in Annexure I to sub-rule (9) of rule 115 when tested at constant speed over full load;

(e) COP frequency and samples:—

SI. No.	Type of Vehicle	Annual Production		COP Frequency
		Exceeding	Upto	
(1)	(2)	(3)	(4)	(5)
1.	Two-wheeler and three-wheeler	250 per 6 months	10000 per year	Once every year
2.	Two-wheeler	100000 per year	150000 per 6 months	Once every 6 months
3.	Two-wheeler	150000 per 6 months	_	Once every 3 months
4.	Three-wheeler	10000 per year	75000 per 6 months	Once every 6 months
5.	Three-wheeler	75000 per 6 months	—	Once every 3 months

For production volumes of less than 250 per 6 months the method as prescribed in the proviso to rule 126-A shall apply;

(f) Testing procedures shall be in accordance with the reference document MOST/CMVR/TAP-115/116 as amended from time to time by the Government of India in the Ministry of Road Transport and Highways:]

[85][Provided that Mass Emission Standards (Bharat Stage II) for diesel driven two-wheeler and three-wheeler shall come into force on the dates specified against each of the States in Table below:—

TABLE

SI. No.	State	Date
(1)	(2)	(3)
1.	Rajasthan	1st June, 2005
2.	Uttar Pradesh—Mathura, Kannauj, Muzaffarnagar, Aligarh, Farukkabad, Saharanpur, Badaun, Barreily, Moradabad, Hathras, Rampur, Bijnor, Agra, Pilibhit, J.P. Nagar, Mainpuri, Lalitpur, Hardoi, Firozabad, Jhansi, Shahjahanpur, Eta wall, Jalon, Lakhirnpur Kheri, Etah, Mahoba and Sitapur	1st June, 2005
3.	Uttaranchal	1st July, 2005
4.	Madhya Pradesh	1st September, 2005
5.	Himachal Pradesh	1st October, 2005
6.	Jammu and Kashmir	1st October, 2005
7.	Punjab	1st October, 2005.]

[86].[(13) Without prejudice to the provisions contained in clause (a) of sub-rule (2) of rule 1 of the Central Motor Vehicles (3rd Amendment) Rules, 2000 and clause (a) of sub-rule (ii) of rule 1 of the Central Motor Vehicles (2nd Amendment) Rules, 2001, notifications number S.O. 779(E), dated 29th August, 2000 and number S.O. 90(E), dated 27th January, 2003, issued under clause (b) of sub-rule (2) of rule 1 of the Central Motor Vehicles (3rd Amendment) Rules, 2000, notifications number S.O. 731(E), dated 21st July, 2001, number S.O. 801(E), dated 26th July, 2002 and number S.O. 940(E), dated 4th September, 2002, issued under clause (b) of sub-rule (ii) of rule1 of the Central Motor Vehicles (2nd Amendment) Rules, 2001 and notification number S.O. 91(E), dated 27th January, 2003, issued under clause (b) of sub-rule (2) of rule 1 of the Central Motor Vehicles (3rd Amendment) Rules, 2000 and clause (b) of sub-rule (ii) of rule 1 of the Central Motor Vehicles (2nd Amendment) Rules, 2001, the provisions of sub-rule (11) shall, in respect of four-wheeled vehicles manufactured on and from the 1st April, 2005, come into force in all States and Union Territories on the 1st day of April, 2005:

[87][Provided that provisions of sub-rule (11) shall, in respect of four-wheeled vehicles to be registered in Sholapur and Lucknow, come into force in Sholapur and Lucknow from the 1st June, 2004:

Provided further that the above said provision shall not apply in respect of four-wheeled transport vehicles plying from Sholapur to other parts of the State of Maharashtra or from Lucknow to the other parts of the State of Uttar Pradesh; or on inter-State or National Permit or on the All India Tourist Permit, within the territorial jurisdiction of the said cities:]

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85. Inserted by G.S.R. 200(E), dated 1-4-2005 (w.e.f. 1-4-2005).

86. Inserted by G.S.R. 927(E), dated 5-12-2003.

87. Inserted by G.S.R. 200(E), dated 18-3-2004 (w.e.f. 1-6-2004).

[88][Provided that Mass Emission Standards (Bharat Stage II) for diesel driven four wheeled vehicles shall come into force on the dates specified against each of the States in Table below:-

TABLE

Sl. No	State	Date
(1)	(2)	(3)
1.	Rajasthan	1st June, 2005
2.	Uttar Pradesh-	1st June, 2005

	Mathura, Kannauj, Muzaffarnagar, Aligarh, Farukkabad, Saharanpur, Badaun, Barreily, Moradabad, Hathras, Rampur, Bijnor, Agra, Pilibhit, J.P. Nagar, Mainpuri, Lalitpur, Hardoi, Firozabad, Jhansi, Shahjahanpur, Etawah, Jalon, Lakhimpur Kheri, Etah, Mahoba and Sitapur	
3	Uttaranchal	1st July, 2005
4	Madhya Pradesh	1st September, 2005
5	Himachal Pradesh	1st October, 2005
6	Jammu and Kashmir	1st October, 2005
7	Punjab	1st October, 2005.]

[89][(14) Mass Emission Standards (Bharat Stage III).—The Mass Emission Standards for Bharat Stage III shall be as under:—

(A) Motor cars with seating capacity of and up to six persons (including driver) and Gross Vehicle Weight not exceeding 2500 kg.

Vehicles with	Limit Values for Type Approval (TA) as well as COP (g/km)				
	CO	HC	NOx	HC+NOx	PM
Gasoline	2.30	0.20	0.15	--	--
Diesel engine	0.64	--	0.50	0.56	0.05

(B) Four-Wheeler Passenger Vehicles with Gross Vehicle Weight equal to or less than 3500 kg and designed to carry more than six persons (including driver) or 3000 kg.and

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88. Inserted by G.S.R. 200(E), dated 1-4-2005 (w.e.f. 1-4-2005).

89. Inserted by G.S.R. 686(E), dated 20-10-2004. Brought into force—(a) in the National Capital Region and the cities of Mumbai, Kolkata, Chennai, Bangalore, Hyderabad including Secundrabad, Ahmedabad, Pune, Surat, Kanpur and Agra in respect of four-wheeled vehicles manufactured on and from 1st April 2005, except in respect of four-wheeled transport vehicles plying on Inter-State Permits or National Permits or All India Tourist Permits within the jurisdiction of these cities; and (b) in other areas of the country, from such date as may be notified by the Central Government. Here "National Capital Region" shall have the same meaning as assigned to it in clause (/) of section 2 of the National Capital Region Planning Board Act, 1985 (2 of 1985).

(C) Four-wheeled Vehicle (other than passenger vehicles) with Gross Vehicle Weight equal to or less than 3500 kg shall conform to the following norms:—

		Limit Values for Type Approval (TA) (g/km) as well as COP (g/ km)								
		CO		HC		NOx		HC+NOx		PM
Class	Ref. Mass (rw) kg	Gasoline	Diesel	Gasoline	Diesel	Gasoline	Diesel	Gasoline	Diesel	Diesel
I	rw<1305	2.30	0.64	0.20	--	0.15	0.50	--	0.56	0.05
II	1305<rw <1760	4.17	0.80	0.25	--	0.18	0.65	--	0.72	0.07
III	1760<rw	5.22	0.95	0.29	--	0.21	0.78	--	0.86	0.10

Notes.-

1. The test shall be on Chassis Dynamometer.
2. The test including driving cycle shall be as per sub-rule (10), with the modifications that-

(i) the exhaust gas sampling should start at the initiation of the engine start up procedure (refer Annexure IV-E);

(ii) the driving cycle shall be at a maximum speed of 90 kmph (refer Annexure IV-E for the detailed cycle).

3. There shall be no relaxation of norms for COP purposes.
4. In case of vehicles operating on CNG or LPG all the provisions prescribed in rules115-B and 115-C shall be applicable except that the norms to be complied with shall be as per these rules.
5. The reference fuel shall be as specified in Annexure IV-F, Annexure IV-G, Annexure IVH and Annexure IVI for diesel, petrol, LPG and CNG, respectively.
6. There shall be no crankcase emissions for petrol driven vehicles.
7. Evaporative Emission shall not be more than 2.0 g/test from petrol-driven vehicles. The Evaporative Emission test procedure for vehicles with positive-ignition engines shall be as described in Annexure VI of European Economic Community (EEC) Directive 70/220/EEC last amended by 98/69/EC.
8. The Conformity of Production (COP) testing procedure shall be as described in section.7 of Annexure I of EEC Directive 70/220/EEC (Refer Appendix 1 or Appendix 2 as applicable) last amended by 98/69/EC.
9. The COP frequency and samples:-

(i) The COP period for each vehicle model including its variants shall be once in a year.

(ii) For production volume of less than 250 for six months, the method as prescribed in the provisos to rule 126-A shall apply.

10. The vehicles meeting the above norms shall use commercial fuel as per BIS specification IS:1460-2000 (Amendment No. I-January, 2003) (Fourth Revision) for Diesel and IS:2796-2000 (Amendment No. II-February, 2003) (Third Revision) for Gasoline.
11. For the vehicles described in clauses (A), (B) and (C) of this sub-rule, deterioration factor shall be as given below:

Engine category	Deterioration factors				
	CO	HC	NOx	HC+NOx	PM
Gasoline/Gas Engine	1.2	1.2	1.2	--	--
Diesel Engine	1.1	--	1.0	1.0	1.2

(i) Alternatively, the vehicle manufacturers may opt for an ageing test of 80,000 kms for evaluating deterioration factor, as described in Annexure VII of European Economic Community Directive 70/220/EEC last amended by 98/69/EC with the following exceptions.

(a) The maximum lap speed at 10th lap will be 72 km/h

(b) The maximum lap speed at 11th lap will be 90 km/h

(ii) The above ageing test should be carries out by the approved test agency.

12. For diesel vehicles, the emission of visible pollutants (smoke) shall not exceed the limit value to smoke density, when expressed as light absorption co-efficient for various normal flows as given in Annexure I of sub-rule (9) when tested at constant speeds over full load. These smoke limits are without correction factor and engines are to be tested with conditioned air supplied to the engine to maintain atmospheric factor of 0.98 to 1.02.

13 In case of diesel vehicles, the engine power shall be measured on engine dynamometer and the measured power shall not differ from the specified power as given below:

(i) For Type approval: ± 5% at maximum power point and ± 10% at other measurement points for single cylinder engines. ± 2% at maximum power point and + 6% and -2% at other measurement points for all other engines.

(ii) Testing procedures shall be in accordance with Chapter 6 of Part IV of the reference document MOST/CMVR/TAP-115/116 as amended from time to time by the Government of India in the Ministry of Shipping, Road Transport and Highways.

14. The vehicles described in clauses (A), (B) and (C) of this sub-rule should comply with rule 115(2).

(D) Diesel vehicles with GVW exceeding 3500 kg shall conform to the following norms:—

Limit Values for Type Approval (TA) as well as (COP)				
Engine Steady State Cycle (ESC) test				Engine Load Response (ELR) Test
CO (g/kWh)	HC (g/Kwh)	NOx (g/kWh)	PM (g/kWh)(2)	Smoke (m-1) (2)
2.1	0.66	5.0	0.10/0.13 (1)	0.8

(1) For engines having swept volume of less than 0.75 litre per cylinder and a rated power speed of more than 3000 rpm.

(2) For diesel engines only.

Notes.—

1. The test shall be on engine dynamometer.
2. There shall be no relaxation of norms for COP purposes.
3. The gaseous and particulate emissions are to be determined on the ESC lest as described in EEC document 1999/96/EC.
4. The smoke opacity is to be determined on the ELR test as described in EEC document 1999/96/EC.
5. In case of vehicles operating on CNG or LPG mode all the provisions prescribed in rules 115-B and 115-C shall be respectively applicable, except that limiting value shall be as per clause (D) above.
6. The reference fuel shall be as specified in Annexure IV-F, Annexure 1V-H and Annexure IV-I for diesel, LPG and CNG, respectively.
7. The Conformity of Production (COP) testing procedure shall be as described in section 9 of Annexure I of EEC Directive 88/77/EEC last amended by 1999/96/EC.

8. The COP frequency and samples:—

(/) The COP period for each engine model including its variants shall be once in a year.

(ii) For production volume of less than 250 for six months, the method as prescribed in the provisos to rule 126-A shall apply.

9. For diesel engine vehicles, the emission of visible pollutants (smoke) shall not exceed the limit value of smoke density, as per Annexure I to rule 115(9). These smoke limits are without correction factor and engines are to be tested with conditioned air supplied to the engine to maintain atmospheric factor of 0.98 to 1.02.

10. The vehicles meeting the above norms shall use commercial fuel as per BIS specification IS:1460-2000 (Amendment No. I—January, 2003) (Fourth Revision) for Diesel and IS:2796-2000 (Amendment No. II—February, 2003) (Third Revision) for Gasoline.

11. In case of diesel vehicles, the engine power shall be measured on engine dynamometer and the measured power shall not differ from the specified power as given below:

(i) For Type approval: ± 2% at maximum power point and +6% and -2% at other measurement points.

(ii) For conformity of production: -5%/+8% at maximum power point.

(iii) Testing procedures shall be in accordance with Chapter 6 of Part IV of the reference document MOST/CMVR/TAP-115/116 as amended from time to time by the Government of India in the Ministry of Shipping, Road Transport and Highways.

12. The vehicles mentioned in clause (*D*) shall also comply with rule 115(2).]

(E) Diesel vehicle with GVW exceeding 3500 kg. and fitted with advanced exhaust after treatment system including De-NOx catalyst and / or particulate trap shall additionally conform to the following norms:—

Limit Values for Type Approval (TA) as well as (COP)			
Engine Transient Cycle (ETC)			
CO (g/kWh)	HC (g/Kwh)	NOx (g/kWh)	PM (g/kWh)(2)
5.45	0.78	5.0	0.16/0.21 (3)

(3) For engines having volume of less than 0.75 litre per cylinder and rated power speed of more than 3000rpm.

Notes.—

1. The test shall be on engine dynamometer.
2. The shall be no relaxation for COP purpose.
3. The gaseous and particular emissions are to be determined on the ETC test as described in EEC document 1999/96/EC and comply with the norms given below.
4. In addition, the gaseous and particulate emission are to be determined on the ESC test as described in EEC document 1999/96/EC and meet the prescribed gaseous and particular emission norms as given in clause(*D*).
5. In addition, the smoke opacity is to determined on the ELR test as described in EEC document 1999/96/EC and meet the prescribed smoke density norms as given in clause (*D*).
6. The reference fuel shall be as specified in Annexure IV-F.
7. The conformity of production (COP) testing procedure shall be as described in section 9 of Annexure I of EEC Directive 88/77/EEC last amended by 1999/96/EC

(8) The COP frequency and samples:—

(i) The COP period for each engine model including its variants shall be once in a year.

(ii) For production volume of less than 250 for six months, the method as prescribed in the provisos to rule 126-A shall apply.

(9) For diesel engine vehicles, the emission of visible pollutants (smoke) shall not exceed the limit value of smoke density, as per Annexure I to rule 115(9). These smoke limits are without correction factor and engines are to be tested with conditioned air supplied to the engine to maintain atmospheric factor of 0.98 to 1.02.

10. The vehicles meeting the above norms shall use commercial fuel as per BIS specification IS:1460-2000 (Amendment No. 1—January, 2003) (Fourth Revision) for Diesel.

11. In case of diesel vehicles, the engine power shall be measured on engine dynamometer and the measured power shall meet the requirements as given below:

(i) For type approval: ± 2% at maximum power point and +6% and -2% at other measurement points.

(ii) For conformity of production: -5% / +8% at maximum power point.

(iii) Testing procedures shall be in according with Chapter 6 of Part IV of the reference document MOST /CMVR /TAP-115/116 as amended from time to time by the Government of India in the Ministry of Shipping, Road Transport and Highways.

12. The vehicles mentioned in clause (*E*) shall also comply with rule 115(2).]

[89a][89b][(*F*) *(i)* The mass Emission Standards (Bharat Stage-III) as specified in sub-clause (iii), shall be applicable in the National Capital Region and the cities of Mumbai, Kolkata, Chennai, Bangalore, Hyderabad, including Secunderabad, Ahmedabad, Pune, Surat, Kanpur, Agra, Sholapur and Lucknow in respect of two and three wheeler vehicles manufactured on or after 1st October, 2014];

(ii) The Mass Emission Standards (Bharat Stage-iii) as specified in sub-clause (iii), shall be applicable in all the States and the Union Territories except National Capital Region and the cities of Mumbai, Kolkata, Chennai, Bangalore, Hyderabad including secunderabad, Ahmedabad, Pune, Surat, Kanpur, Agra, Sholapur and Lucknow in respect of two and three wheeler manufactured on or after 1st October, 2014];

(iii) The Mass Emission Standards (Bharat Stage-iii) for [89c][two wheelers, three wheelers and quadricycles] vehicles shall be as under:-

Vehicle Category	Pollutants	TA = COP norms (g/km)	D. F. (Deterioration Factor)
(1)	(2)	(3)	(4)
Two-wheelers (Gasoline)	CO HC+NOx	1.0 1.0	1.2 1.2
[89c][Three wheelers And quadricycles] (Gasoline)	CO HC+NOx	1.25 1.25	1.2 1.2
Two-wheelers And [89c][Three wheelers And quadricycles] (Diesel)	CO HC+NOx PM	0.50 0.50 0.50	1.1 1.0 1.2

Notes.—

1. (a) For vehicles operating on CNG mode, the provisions of rule 115-B shall be applicable.

(b) For vehicles operating on LPG mode, the provisions of rule 115-C shall be applicable

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89a. Inserted by G.S.R. 84(E), dated 9-2-2009 (w.e.f 1-4-2010).

89b. Substituted by G.S.R. 443(E), dated 21-5-2010 (w.e.f.21-5-2010)and as corrected by G.S.R. 447(E), dated 26-5-2010.

89c. Substituted by G.S.R. 99(E), dated 19-2-2014 (w.e.f. 1-10-2014).

2. The reference fuel for Diesel and Gasoline vehicle shall be as specified in Annexure IV-F and Annexure IV-G respectively and reference fuel for CNG and LPG shall be as available commercially.

3. The commercial fuel for Gasoline and Diesel vehicle shall be as per BIS Specification IS: 1460-2005 (Fifth revision) for diesel and IS: 2796-2008 (Amendment No. I-JANUARY, 2008) (Forth Revision) for Gasoline, Specification for Commercial CNG and LPG shall be as notified from time to time.

4. The provision of clauses (a), (c), (d), (e) and (f) of sub-rule (12) of rule 115, except the provision therein, shall be applicable to the said vehicles.

5. In case of diesel vehicles, the engine power shall be measured on engine dynamometer and the measured power shall conform to the power specified in Chapter 1 of Part IV of MoSRTH/CMVR/TAP-115/116 as amended from time to time, when tested as per the procedures laid down in Chapter 6 of Part IV MoSRTH/CMVRIT AP – 115/116 as amended from time to time.

6. (i) Gasoline/CNG/LPG vehicles specified herein shall comply with the provision of clause (i) of sub-rule (2) of rule115.

(ii) Diesel vehicle specified herein shall comply with clause (ii) of sub –rule (2) of rule 115.

89d[*(FA)* Alternate Mass Emission Standards (Bharat Stage-III) for two wheeler gasoline vehicles, with engine capacity exceeding 50cc or a maximum design speed exceeding 50 km/hour, based on worldwide Harmonised Motorcycle Emission Certificate (WMTC) Procedure shall be as under:-

Class	Pollutants	TA=COP norms Including Deterioration Factor (G/KM)
(1)	(2)	(3)
Class 1 and Sub-Class 2.1	CO	1.87
	HC+NOx	1.08
Sub-Class 2.2	CO	2.62
	HC+NOx	0.92
Sub-Class 3.1	CO	2.62
	HC+NOx	0.55
Sub-Class 3.2	CO	2.62
	HC+NOx	0.55

89dd[Provided that the two wheelers manufactured on and after the 1st April 2016 for new types of vehicle models and from the 1st April, 2017 for existing types of vehicle models, for the areas other than those specified in clause (a) of sub-rule (15) of rule 115, shall be type approved as per requirements of sub-rule (16):

Provided further that the Conformity of Production (COP) requirements shall also be as specified in sub-rule (16):]

89ddd[Provided also that for new vehicle models of three wheelers manufactured on or after the 1st April, 2016, and for existing vehicle models of three wheelers manufactured on or after 1st April, 2017, for the areas other than those specified in clause (a) of sub-rule (15), shall be as specified in sub-rule (17).]

Provided also that the conformity of production requirements shall also be as specified in Sub-rule (17)].

89d. Inserted by G.S.R. 515(E), dated 29-6-2012 (w.e.f. 29-6-2012).

89dd. Inserted by G.S.R. 431(E), dated 4-7-2014 (w.e.f. 4-7-2014).

89ddd. Inserted by G.S.R. 515(E), dated 12-6-2015 (w.e.f. 12-6-2015).

Explanatory Notes.—

For the purpose of this clause,-

1. Classification of vehicle and weighting factor for final emission result shall be as given below .—

	Definition of Class	Cycles	Weighting factors for final emission results
Class 1	Engine capacity above 50cc but less than 150cc and vehicle maximum speed equal to or less than 50km/h Or Engine capacity less than 150cc and vehicle maximum speed more than 50km/h but less than 100km/h	Part 1 Reduced Speed cold followed by Part 1 Reduced Speed Hot	Part 1 Reduced Speed cold shall be 50% and Part 1 Reduced Speed Hot shall be 50%
Sub-Class 2.1	Engine Capacity less than 150cc and vehicle maximum speed equal to or more than 100km/h but less than 115km/h Or Engine capacity 150cc and above and vehicle maximum speed less than 115km/h	Part 1 Reduced Speed cold followed by Part 1 Reduced Speed Hot	Part 1 Reduced Speed cold shall be 50% and Part 1 Reduced Speed Hot shall be 50%
Sub-Class 2.2	Any engine capacity and vehicle maximum speed equal to or more than 115km/h but less than 130km/h	Part 1 cold followed by Part 2 Hot	Part 1 cold shall be 30% and part 2 Hot shall be 70%
Sub-Class 3.1	Any engine capacity, vehicle maximum speed equal to or more than 130km/h but less than 140km/h	Part 1 cold followed by Part 2 Hot followed by Part 3 Reduced Speed	Part 1 cold shall be 25%; Part 2 Hot shall be 50% and Part 3 Reduced shall be 25%
Sub-Class 3.2	Definition of Class Any engine capacity and vehicle maximum speed equal to or more than 140km/h	Cycles Part 1 cold followed by Part 2 Hot followed by Part 3	Weighting factors for final emission results Part 1 cold shall be 25%; Part 2 Hot shall be 50% and Part 3 shall be 25%

2. The test procedure and driving cycles shall be as per United Nations Economic Commission for Europe (UN ECE) Global Technical Regulation (GRT)-2 incorporating Amendment 2, with Preconditioning, soaking and cold start on classis dynamometer as specified above.

3. Vehicle Preconditioning: Operated through the cycles prescribed as above.

4. Vehicle Soaking: The vehicle shall be stored for not less than six hours and not more than thirty-six hours prior to the cold start Type I test or until the engine oil temperature (T^O) or the coolant temperature (T^C) or the sparkplug seat/gasket temperature (T^P), only for air cooled engine, equals the air temperature of the soak area.

5. Preparatory running before sampling is not required, sampling starts at T=0 second.

6. Break down of different parts of Worldwide Harmonised Motorcycle Emissions Certification (WMTC) shall be as per the details given in Annexure 5 of Chapter XIII-A of Ministry of Road Transport and Highways/Central Motor Vehicles Rules/Type Approval Procedure -115/116 (MoRTH/CMVR/TAP-115/116).

7. Reference fuel shall be as specified in Annexure IV-G of the said rules.

8. Requirements of durability have been built in the mass emission standards specified above.

9. Conformity of production (Cop) Frequency and sampling shall be as per clause (e) of sub –rule (12) of rule 115 of the said rules.

10. The procedure shall be in according with Ministry of Road Transport and Highways/Central Motor Vehicles Rules/Type Approval Procedure -115/116 (MoRTH/CMVR/TAP-115/116).

11. The vehicle shall comply with the provision of clause (i) of sub-rule (2) of rule 115 of the said rules.

12. The commercial fuel for gasoline vehicle shall be as per Bureau of Indian Standards specification IS: 2796-2008 for gasoline.]

[89e][(G) [89f][(i)] The provision of this sub-rule in respect of four wheeler vehicles manufacturing on and from the 1st October, 2010 shall apply to all the States and the Union territories except National Capital Region and the cities of Mumbai, Kolkata, Chennai, Bangalore, Hyderabad, including secunderabad, Ahmedabad, Pune, Surat, Kanpur, Agra, Sholapur and Lukknow;]]

[89f][(ii) the provision of this sub-rule in respect of four-wheeled vehicles manufactured on and from the 1st October, 2014 shall be not apply to the cities of Puducherry, Mathura, Vapi, Jamnagar, Ankaleshwar, Hissar, Bharatpur, Daman, Diu, Silvasa, Unnao, Rea Bareilly, Aligarh, Karnal, Valsad, Yamuna Nagar, Kurukshetra, Nizamabad, Medak and Mehboobnagar;]

[89g][(iii) the provision of this sub-rule in respect of four wheeler vehicles manufactured on and from the 15th July, 2015 shall not apply to the cities of Vrindavan, Kosi, Kalan, Hindaun city, Dholpur, Ahmedanagar, Mahabaleshwar, Lonawala, Palgarh, Dahanu, Talasari, Boisar, Panchagani, Mahad, Nagothana, Indapur, Vizag, Kochi, Trivandrum, Kavaratti, Nagar, Dig, Nadbai, Bhiwani, Jind, Mahendagarh, Hansi, Charki Dadri, Narnaul, Kiruli and Fatehpur Sikri;]

[89h][(iv) the provision of this sub-rule in respect of four wheeler vehicles manufactured on and from the 1st October, 2015 shall not apply to the State of Jammu and Kashmir (except Districts of Leh and Kargil), Punjab, Haryana, Himachal Pradesh, Uttarakhand, and districts of Hanumangarh and Sri Ganganagar in the State of Rajasthan and in the districts of Saharanpur, Muzaffarnagar, Bijnaur, Jyotiba Phule Ngar, Rampur, Muradabad, Aligarh, Badaun, Bareily, Mathura, Mahamayanagar, Etah, Agra, Firozabad, Etawah, Manipuri, Pilibhit, Shamli, Sambhal, Farrukabad, Kannauj, Auriya and Kasganj, in the State of Uttar Pradish;

(v) the provision of this sub-rule in respect of four wheeler vehicles manufactured on and from the 15th April, 2016 shall not apply to the States of Goa, Kerala, Karnataka, Telan-gana, Odisha and the Union territories of Daman and Diu, Dadra and Nagar Haveli and Anda -man and Nicobar Islands, districts of Mumbai, Thane and Pune in the State of Maharashtra and districts of Surat , Valsad, Sangs and Tapi, in the State of Gujarat;

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89e. Substituted by G.S.R. 443(E), dated 21-5-2010(w.e.f. 21-5-2010) and as corrected by G.S.R. 447(E), dated 26-5-2010.

89f. Renumber as CI. (i) and CI. (ii) Inserted by G.S.R. 504(E), dated 16-7-2014(w.e.f.1-10-2014).

89g. Inserted by G.S.R. 555(E), dated 14-7-2015 (w.e.f.14-7-2015)

89h.Inserted by G.S.R. 643(E), dated 19-8-2015 (w.e.f. 19-8-2015).

(vi) .the provision of this sub-rule in respect of four-wheeled vehicles manufactured on and from 1st April, 2016 shall not applicable.]

[89i][(15) Mass Emission Standards (Bharat Stage-IV) for M and N Category vehicles:- (a)the Mass Emission Standards for Bharat Stage-IV shall come into force in the National Capital Region and the cities of Mumbai, Kolkata, Chennai, Bangalore, Hyderabad including Secunderabad, Ahmedabad, Pune, Surat Kanpur, and Agra in respect of four-wheeled vehicles manufactured on or after the 1st April, 2010, except the four-wheeled transport vehicles plying on Inter-Sate permits or National permits or all India Tourist permits, within the jurisdiction of these cities:

[89j][Provided that the Mass Emission Standards (Bharat Stage-IV) shall applicable in the cities of Solapur and Lucknow in respect of four wheeler vehicle manufactured on or after 1st June, 2010

except the four wheeler transport vehicle plying on Inter-State Permits or National Permits or All India Tourist Permits, within the jurisdiction of the said cities:]

[89k][Provided further that the Mass Emission Standards (Bharat Stage IV) shall be applicable in the cities of Puducherry, Mathura, Vapi, Jamanagar, Ankaleshwar, Hissar, Bharatpur, Daman, Diu, Silvasa, Unnao, Rae Bareilly, Aligarh, Karnal, Valsad, Yamuna Nagar, Kurukshetra, Nizamabad, Medak and Nehboobnagar in respect of four wheeled transport vehicle plying on Inter-State Permits or National Permits or all India Tourist Permits, within the jurisdiction or the said cities:]

[89l][Provided also that the Mass Emission Standards (Bharat State IV) shall be applicable in the cities of vrindavan, Kosi Kalan, Hindaun city, Dholpur, Ahmednagar, Mahabaleshwar, Lonwala, Palgarh, Dahanu, Talasari, Boisar, Panchagani, Mahad, Nagothana, Indapur,Vizag, Kochi, Trivandrum, Kavaratti, Nagar, Dig, Nadbai, Bhiwani, Jind, Mahemdragarh, Hansi, Charki Dadri, Narnaul, Kiruli and Fatehpur Sikri in respect of four wheeler vehicle manufactured on or after the 15th July, 2015 except the four wheeler transport vehicle plying on Inter-State Permits or National Permits or All India Tourist Permits, within the jurisdiction of the said cities:]

[89h][Provided also that, without prejudice to the provision contained in the above provision, the Mass emission Standards, Bharat Stage IV, shall be applicable to the State of Jammu and Kashmir (except districts of Leh and Kargil); Punjab, Haryana, Himachal Pradesh, Uttarakhand and districts of Hanumangarh and Sri Ganganagar in the State Rampur, Moradabad, Aligarh, Bndun, Bareilly, Mathura, Mahamayanagar, Etha, Agra, Firozabad, Etawah, Mainpuri, Pilibhit, Shamli, Sambhal, Farrukabad, Kannauj, Auriya and Kasganj in the State of Uttar Pradesh in respect of four wheeled vehicle manufactured on or after the 1st October, 2015, except the four wheeled transport vehicle plying on Inter-State Permits or National Permits or all India Tourist Permits, within the jurisdiction of said district and States.

Provided also that, without prejudice to the provisions contained in the above provisos, the Mass Emission Standards, Bharat Stage IV, shall be applicable in the States of Goa, Kerala, Karnataka, Telangana, Odisha and the Union territories of Daman and Diu, Dadra and Nagar Haveli and Andaman and Nicobar Island, districts of Surat, Valsad, Dange and Tapi in the State of Gujrat, in respect of four-wheeled vehicle manufactured on or after the 1st April, 2016, except the four wheeled transport vehicle plying on Inter-State Permits or National Permits or All India Tourist Permits, within the jurisdiction of the said districts and states].

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89i.Inserted by G.S.R. 84(E), dated 9-2-2009 (w.e.f. 1-4-2010).
89j.Inserted by G.S.R. 443(E), dated 21-5-2010 (w.e.f. 21-5-2010).
89k.Inserted by G.S.R. 504(E), dated 16-7-2014 (w.e.f. 1-10-2014).
89l. Inserted by G.S.R. 555(E), dated 14-7-2015 (w.e.f. 14-7-2015).

Explanation.- For the purpose of Sub-rule (14) and (15), the "National Capital Region" shall have the same meaning as assigned to it in clause (f) of section 2 of the National Capital Region Planning Board Act, 1985 (2 of 1985);

[89m][(aa) without prejudice to the provision contained in the provisos to clause (a), the Mass Emission Standards for Bharat Stage IV shall come into force all over the country in respect of four wheeled vehicles manufactured on or after the 1st April, 2017;]

(b) the Mass Emission Standards for Bharat Stage IV shall be as under.-

(i) the mass emission standards for Bharat Stage-IV, Category M and Category N vehicle manufactured on or after the 1st April, 2010, WITH Gross Vehicle Weight not exceeding 3,500 kg, shall be as under:

Limit Values for TS and COP

Cate-gory	Class	Reference Mass (RW) (Kg)	Mass of Carbon Monoxide (CO) (g/km)	Mass of Hydro Carbon (HC)	Mass of Oxides of Nitrogen (NOx) (g/km)	Combined mass of Hydro-carbons	Mass of Particulates (PM) (g/km)

					(g/km			and Oxides of Nitrogen (HC+NOx) (g/km)	
			Gasoline	Diesel	Gasoline	Gasoline	Diesel	Diesel	Diesel
M*	-	All	1.00	0.50	0.10	0.08	0.25	0.30	0.025
N1 and M**	I	RW-305	1.00	0.50	0.10	0.08	0.25	0.30	0.025
	II	1305<RW 1760	1.81	0.63	0.13	0.10	0.33	0.39	0.04
	III	1760<RW	2.27	0.74	0.16	0.11	0.39	0.46	0.06

*These limits are not applicable for vehicles designed to carry more than six persons including driver or vehicle whose gross vehicle weight exceed 2,500 kg.

**These limits are applicable for vehicles designed to carry more than six persons including driver or vehicles whose gross vehicle weight exceeds 2,500 kg.

Notes.-

1. The test shall be on classis Dynamometer.

2. The test including driving cycle shall be as provided in sub-rule (10) with the modifications that-

(i) The exhaust gas sampling should start at the initiation of the engine start up procedure referred to in Annexure IV-E.

(ii) The driving cycle shall be at a maximum speed of 90km/hour referred to in Annexure IV-E.

3. There shall be no relaxation of norms for conformity of production (COP) purpose.

4. (i) In case of vehicle operating on CNG, the provision in rule 115-B shall be applicable.

(iii) In case of vehicle operating on LPG, the provisions in rule 115-C shall be applicable

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89m. Inserted by G.S.R.643 (E), dated 19-8-2015(w.e.f. 19-8-2015).

5. The reference fuel shall be as specified in Annexure IV-J for Gasoline vehicles, Annexure IV-K for diesel vehicles, Annexure IV-L for CNG (G20 and G25) vehicles and Annexure IV-M for LPG (Fuel A and Fuel B) vehicle respectively. Reference Fuel as per Annexure IV-L and IV-M shall be used for type Approval and conformity of production one year after the same is available to the test agencies. Till then, Commercial CNG/LPG fuel shall be vehicles.

6. There shall be no crankcase emission for Gasoline driven vehicles.

7. Evaporative emission shall not be more than 2.0 g/test from Gasoline driven vehicles. The evaporative emission test procedure for Gasoline driven vehicles shall be as per the procedure specified in MoSRTH/CMVR/TAP-115/116 and as amended from time to time.

8. The Conformity of Production (COP) testing procedure shall be as described in MoSRTH/CMVR/TAP-115/116 as amended from time to time.

9. The COP frequency and samples:-

(i) The conformity of Production period for each vehicle model including its variant (s) shall be once in a year;

(ii) Where production volume in six months is less than 250 per model including its variants, the provisions contained in the provision to rule 126-A shall apply.

10. The commercial Gasoline and Diesel fuel shall be as per Annexure IV-N and IV-O in respect of the places mentioned in clause (a) of this sub-rule and in respect of all other places, the commercial fuel shall be Bharat Stage- III as per BIS specification IS: 1460-2005 (fifth revision) for Diesel and IS: 2796-2008 (Amended No. 1-January 2008) (fourth revision) for Gasoline Specification for commercial CNG and LPG shall be as notified from time to time.

11. For the vehicles of the Category M and Category N with Gross Vehicle Weight not exceeding 3,500kg.-

(i) Deterioration factor shall be as given below:-

Engine Category	CO	HC	Deterioration NOx	Factor HC+NOx	PM
Gasoline/Gaseous fuelled Engines.	1.2	1.2	1.2	Not Applicable	
Diesel Engines.	1.1	Not Applicable	1.0	1.0	1.2

(ii) Alternatively, the vehicle manufacturers may opt for an ageing test of 80,000 km for evaluating deterioration factor as per MoSRTH/CMVR/TAP-115/116 and as amended from time to time.

(iii) The maximum lap speed at 10^{th} lap and 11^{th} lap shall be 72 km/hour and 90 km/hour respectively.

(iv) The above aging test should be carried out by the approved test agency specified in rule 1

12. For Diesel Vehicles, the emission of visible pollutants (smoke) shall not exceed the limit value of smoke density, when expressed as light absorption co-efficient for various nominal flows as given in Annexure I to sub-rule (9) of rule 115 when tested at constant speeds over the full load. These smoke limits are without correction factor and engines are to be tested with conditioned air supplied to the engine to maintain atmospheric factor at 0.98 to 1.02.

13. In the case of Diesel vehicles, the engine power shall be measured on engine dynamometer and the measured power shall conform to the power specified in Chapter 1 of Part IV of MoSRTH/CMVWR/TAP-115/116 as amended from time to time, when tested as per the procedures laid down in Chapter 6 of Part IV of MoSRTH/CMVR/TAP -115/116 as amended from time to time.

14. (i) All Gasoline/CNG/LPG vehicles specified in this sub-clause shall comply with the provision of clause (i) of sub-rule 115.

(iii) All Diesel Fuelled Vehicles specified in this Sub-clause shall comply with the provision of clause (ii) of sub-rule (2) of rule 115.

15. The vehicles of Category M and Category N with Gross Vehicle Weight not exceeding 3,500 kg. shall be equipped with On-Board Diagnostic (OBD) system for emission control which

shall have the ca[ability of identifying the likely area of malfunction by means of fault codes stored in computer memory for vehicles manufactured on and from 1st 2010 as per the procedure laid down in MoSRTH/CMVR/TAP -115/116 and as amended from time to time. The On-Board Diagnostic (OBD) system for emission control shall be as specified in the Tables below:-

TABLE I

On-Board Diagnostic (OBD) system for emission control:

Sl. No.	Engine Type	Category of Vehicle	year OBD I vehicles manufactured n and from	OBD II vehicles manufactured on and from
1.	Gasoline Fuelled Engines	M1 and M2 (less than 3,500 kg GVW)	1st April 2010	1st April 2013
2.	Gasoline Fuelled Engines	N1	1st April 2010	1st April 2013
3.	LPG or CNG Fuelled Engines	M1 and M2 (less than 3,500 kg GVW)	___	1st April 2013
4.	LPG or CNG Fuelled Engines	N1	___	1st April 2013
5.	Compression Ignition Engines	M1 and M2 (less than 3,500 kg GVW)	1st April 2010	1st April 2013
6.	Compression Ignition Engines	N1	1st April 2010	1st April 2013
7.	All	M1 and M2 (less than 3,500 kg GVW)	___	1st April 2013

TABLE II

All Positive Ignition Vehicles

OBD Monitoring Items

Monitoring Items	OBD I Vehicles manufactured On and from	OBD II vehicles manufactured on and from
Catalyst	----	1st April 2013
Misfire	----	1st April 2013
O2 (Oxygen) Sensor	1st April 2010	1st April 2013
Secondary Air system (if provided)	1st April 2010	1st April 2013
Coolant temperature	1st April 2010	1st April 2013
EGR, (Exhaust Gas Recirculation) (if provided)	1st April 2010	1st April 2013
Fuel tank leakage and evaporation	----	1st April 2013
Fuel system	----	1st April 2013
Emission Control system /components (Comprehensive Components)	1st April 2010	1st April 2013
Circuit continuity for all emission related power train components	1st April 2010	1st April 2013
Distance traveled since MIL (Malfunction Indicator Lamp) ON	1st April 2010	1st April 2013

TABLE III

All Compression Ignition Vehicles

OBD Monitoring Items

Monitoring Items	OBD I Vehicles manufactured On and From	OBD II Vehicles manufactures On and from
Catalyst	-	1st April 2013
Electronic fuel Injection system	1st April 2010	1st April 2013
Particulate Trap (if provided)	-	1st April 2013
Coolant temperature	1st April 2010	1st April 2013
EGR (Exhaust Gas Recirculation) (if provide)	1st April 2010	1st April 2013
Fuel system	-	1st April 2013
Emission Control systems/ components Comprehensive Components)	1st April 2010	1st April 2013
Circuit continuity for all emission related power train components	1st April 2010	1st April 2013
Distance traveled since MIL (Malfunction Indictor Lamp) ON	1st April 2010	1st April 2013

16. For vehicles manufactured on and from 1st April 2013, the On-Board Diagnostic-II (OBD-II) systems for emission control must indicate the failure of an emission-related component or system, as per the procedure laid down in MoSRTH/CMVR/TAP-115/116 and as amended from time to time, when that failure result in an increase in emission above the limits given in the Table below:-

TABLE IV

		Reference Mass	Mass of Carbon Monoxide		Mass of Hydrocarbons		Mass of Oxides of Nitrogen (g/km)		Mass of Particu-lates
		(RW)	(CO)		(HC)		(NOx)		(PM)
		(Kg)	(g/km)		(g/km)		(g/km)		(g/km)
Cate-gory	Class		Petrol	Diesel	Petrol	Diesel	Petrol	Diesel	Diesel
M*		All	3.2	3.2	0.4	0.4	0.6	1.2	0.18
N1 and M**	I	RW - 1305	3.2	3.2	0.4	0.4	0.6	1.2	0.18
	II	1305<RW-1760	5.8	4.0	0.5	0.5	0.7	1.6	0.23
	III	1760<RW	7.3	4.8	0.6	0.6	0.8	1.9	0.28

*These limits are not applicable for vehicle designed to carry more than six persons including driver or vehicles whose gross vehicle weight exceeds 2,500 kg.

**These limits are applicable foe vehicle designed to carry more than six persons including driver or vehicles whose gross vehicle weight exceeds 2,500 kg.

(iii) Vehicles with Gross Vehicle Weight exceeding 3,500 kg manufactured on or after the 1st April, 2010 and equipped with either the diesel engines or the CNG Engines or the LPG Engines shall conform to the following norms:-

(A) For Diesel engines

Limit values for Type Approval (TA) as well as (COP)	
Engine Steady State Cycle (ESC) test	Engine Load Response (ELR) test

CO (g / kWh)	HC (g / kWh)	NOx (g / kWh)	PM (g / kWh)	Smoke (m-1)
1.5	0.46	3.5	0.02	0.5

(B) For Diesel engines, CNG Engines or LPG Engines

Engine Transient Cycle (ETC) test				
CO (g / kWh)	NMHC (1) (g / kWh)	CH4 (2) (g / kWh)	NOx (g / kWh)	PM (3)
4.0	0.55	1.1	3.5	0.03

(1) A manufacturer may choose to measure the mass of total hydrocarbons (THC) instead of measuring the mass of non-methane hydrocarbon (NMHC). In this case, the limit for mass of THC should be same as for the NMHC.

(2) For CNG engines only.

(3) For Diesel engines only.

Notes.-

1. The test shall be done on engine dynamometer.

2. There shall be no relaxation of norms for Conformity of Production (COP) purpose.

3. In case of vehicle operating on diesel fuelled engines, the gaseous and particulate emission shall be as per Engine Steady State Cycle (ESC) and Engine Transient Cycle (ETC) and smoke test shall be as per Engine Load Response (ELR) as specified in MoSRTH/CMVR/TAP -115/116 and as amended from time to time.

4. In case of vehicles operating on CNG or LPG fuelled engines, the gaseous emissions are to be determined only on the Engine Transient Cycle (ETC) test as specified in MoSRTH/CMVR/TAP -115/116 as amended from time to time.

5. The smoke Opacity is to be determined only on the Engine Load Response (ELR) test as specified in Part XII of MoSRTH/CMVR/TAP -115/116 as amended from time to time.

6. In case of vehicle operating on CNG or LPG mode, the provisions of rules 115-B and 115-C shall be applicable respectively.

7. The reference fuel shall be as specified in Annexure IV-K for Diesel vehicles, Annexure IV-L for CNG (G20, G23 and G25) vehicles and Annexure IV-M for LPG (Fuel A and Fuel B) vehicles respectively. Reference Fuel as per Annexure IV-L and IV-M shall be used for Type Approval and Conformity of Production, one year after the same is available to the test agencies. Till then, Commercial CNG/LPG fuel shall be used.

8. The conformity of Production (COP) testing procedure shall be as specified in MoSRTH/CMVR/TAP -115/116 as amended from time to time.

9. The conformity of Production (COP) frequency and samples:

(i) The conformity of Production period for each engine model including its variants (s) shall be once a year;

(i) Where production volume in six months is less than 250 per model including its variants, the provisions contained in the provisos to rule 126-A shall apply.

10. For diesel engine vehicles, the emission of visible pollutants (smoke) shall not exceed the limit value of smoke density, as per Annexure I to sub-rule (9) of rule 115. These smoke limits are without correction factor and engines are to be tested with conditioned air supplied to the engine to maintain atmospheric factor of 0.98 to 1.02.

11. The commercial Diesel fuel shall be as per Annexure IV-O in respect of the places mentioned in Sub-clause (i) of clause (a) of this sub-rule and in respect of all other places, the commercial fuel shall be as per BIS specification IS: 1460-2005 (fifth revision) for Diesel. Specification for commercial CNG and LPG shall be as notified from time to time.

12. For vehicles with Gross Vehicle Weight exceeding 3,500 kg manufactured on or after the 1st April, 2010,-

(i) Deterioration factor shall be as given in the Table below:-

Engine Type	Test cycle	CO	HC	NMHC	CH4	NOx	PM

Diesel engine	ESC ETC	1.1 1.1	1.05 1.05	- -	- -	1.05 1.05	1.1 1.1
CNG, LPG or Gaseous fuelled engine	ETC	1.1	1.05	1.05	1.2	1.05	--

(ii) Alternative, the vehicle manufacturers may opt for evaluation of deterioration factor as specified in MoSRTH/CMVR/TAP -115/116 as amended from time to time.

The above ageing test should be carried out by the approval test agency.

13.In the case of Diesel vehicles, the engine power shall be measured on engine dynamometer and the measured power shall not differ from the specified power as given in Chapter 1 of part IV of MoSRTH/CMV/TAP-115/116 as amended from time to time when tested as per procedures laid down in Chapter 6 of Part IV of MoSRTH/CMVR/TaP – 115/116 as amended from time to time.

14.(i) The CNG and LPG vehicles specified in this sub-clause shall comply with the provisions of clause (ii) of sub-rule (2) of rule 115.

15. The extension of type approval to engine family and engine after treatment system family shall be as described in MoSRTH/CMVR/TAP-115/116 as amended from time to time.

16. The vehicles specified in this sub-clause shall be equipped with an On Board Diagnostic systems for emission control which shall have the capability of identifying the likely area of malfunction by means of fault codes stored in computer memory for vehicle manufactured on and from 1st April 2013, as per procedure laid down in MosRTH/CMVR/TAP-115/116 and as amended from time to time.

Category of Vehicle in which engine will be installed	Minimum Service accumulation period
Category N1 Vehicles	100,000 km
Category N2 vehicles	125,000 kms
Category N3 Vehicles with GVW equal to or less than 16,000 kg	125,000 km
Category N3 Vehicles with GVW above 16,000 kg	167,000 km
Category M2 Vehicles	100,000 km
Category M3 Vehicles with GVW equal to or less than 7,500 kg	125,000 km
Category M3 Vehicles with GVW above 7500 kg	167,000 km

17.The Diesel engine NOx reduction agent AUS 32 (Aqueous Urea Solution) shall onform to Part 1 and Part 2 of ISO 22241-2006.]

[90][(16) Mass emission standards (Bharat Stage IV) shall come into force for two wheelers manufactured on and after the 1st April, 2016 for new types of vehicle models and from the 1st April, 2017 for existing types of vehicle models –

A.Two wheeled vehicles fitted with gasoline engines –

I.Mass emission standards (Bharat Stage IV) for two wheelers, with engine capacity exceeding 50 cc and a maximum design speed exceeding 50km per hour: Based on World-wide armonized Test Cycle (WMTC) –

TABLE 1

TA=COP norms (g/km)
HC + NOx

Class	CO	NOx	If the evaporative emission complies with 2 g/test	If the evaporative emission complies with 2 g/test
(1)	(2)	(3)	(4)	(5)
Class 1 and Sub-Class 2.1	1.403	0.39	0.79	0.59
Sub-Class 2.2	1.970	0.34	0.67	0.47
Sub-Class 3.1 and Sub-Class 3.2	1.970	0.20	0.40	0.20

Explanatory Notes :-

For the purpose of this clause;-

1.Classifcation of vehicles and weighting factor for the final emission result shall be as given below:-

	Definition of class	Cycles	Weighting factors for final emission result
Class 1	Vehicles that fulfill the following specifications belong to Class 1: 50 cm^3 < engine capacity < 150 cm^3 and Vmax < 50 km/hr or Engine capacity < 150 cm^3 and 50 km/hr < Vmax < 100 km/hr	Part 1 Reduced Speed cold followed by Part 1 Reduced Speed Hot	Part 1 Reduced Speed cold shall be 50% and Part 1 Reduced Speed Hot shall be 50%
Sub-Class 2.1	Vehicles that fulfill the following specifications belong to Class 2.1: Engine capacity < 150 cm3 and 100 km/h < Vmax < 115 km/hr or Engine capacity < 150 cm3 and Vmax < 115 km/h	Part 1 Reduced Speed cold followed by Part 1 Reduced Speed Hot	Part 1 Reduced Speed cold shall be 50% and Part 1 Reduced speed Hot shall be 50%

90. Inserted by G.S.R 431(E), dated 4-7-2014 (w.e.f.4-7-2014).

Sub-Class 2.2	Vehicles that fulfill the following specifications belong to Class 2.2: 115 km/h < Vmax<130 km/h	Part1 cold followed by Part 2 Hot	Part 1 cold shall be 30% Part2 hot shall be 70%
Sub-Class 3.1	Vehicles that fulfill the following specification belong to Class 3.1: 130 km/h<Vmax< 140 km/h	Part 1 cold followed by Part 2 Hot followed by Part 3 reduced speed	Part1 cold shall be 25% Part 2 Hot shall be 50% and Part 3 reduced shall be 25%
Sub-Class 3.2:	Vehicles that fulfill the following specification belong to Class 3.2: Vmax<140 km/h	Part 1 cold followed by Part 2 followed by Part 3	Part 1 cold shall be 25% Part 2 Hot shall be 50% and Part 3 shall be 25%

2. The test procedure and driving cycles shall be as per United Nations Economic Commission for Europe (UN ECE) Global Technical Regulation (GTR)-2 incorporating Amendment 2, with preconditioning soaking and cold start on chassis dynamometer as specified above.

3. Vehicle preconditioning: Operated through the cycles prescribed as above.

4. Vehicle soaking: The vehicle shall be stored for not less than six hours and not more than thirty

six hours prior to the cold start Type 1 test or until the engine oil temperature (T^0) or the coolant temperature (T^c) or the sparkplug seat/gasket temperature (T^0), only for air cooled engine, equals the air temperature of the soak area.

5. Preparatory running before sampling is not required, sampling starts at T=0 second.

6. Break down of different parts of Worldwide Harmonized Motorcycle Emission Certification (WMTC) shall be as per the details given in Annexure 5 of Chapter XIII A of Ministry of Road Transport and Highways or Central Motor Vehicles Rules or Type Approval Procedure -115/116 (MoRTH/CMVR/TAP-115/116) as amended from time to time.

7.The reference fuel for gasoline vehicle shall be as specified in Annexure IV-J of the said rules and reference fuel for Compressed Natural Gas (CNG) and for Liquefied Petroleum Gas (LPG) shall be as commercially available.

8.The specification of commercial gasoline shall be as specified in Annexure IV-N of the said rules. For the areas other than those specified in Para (a) of sub-rule (15) of rule 115 of principal rules commercial gasoline shall be as per Bureau of Indian Standards specification Is: 2796-2008 for gasoline. Specification for commercial CNG and LPG shall be as notified from time to time.

9. Requirements of durability (for CO- 1.2, NOx- 1.2 & HC+NOx – 1.2 considering 30,000 km. durability run) have been built into the mass emission standards specified above.

10. For vehicles operating on CNG mode, the provisions of rule 115-B shall be applicable.

11. For Vehicles operating on LPG mode, the provisions of rule 115-C shall be applicable.

12. Gasoline or CNG or LPG vehicles specified herein shall comply with the provisions of clause (i) of sub-rule (2) of rule 115.

13. Crankcase ventilation system shall not permit the emission of any of the crankcase gases into the atmosphere.

14. Evaporative emission for gasoline driven vehicles shall not be more than 2g/test or 6g/test, depending on whether the norm for HC + NOx adopted by manufacturer is from Column (4) or Column (5) respectively of Table 1 of mass emission norms and the test procedure shall ve as per MoRTH/CMVR/TAP-115/116, as amended from time to time.

15. Conformity of production (COP) frequency and sampling shall be as per clause (e) of sub-rule (12) of rule 115 of the said rules.

II. Mass emission standards (Bharat Stage IV) for two wheeler with Spark Ignition engines, other than those specified in para A.I above: (vehicles with cc<50 and Vmax< 50 km/hr):

The mass emission standards

TABLE 2

Pollutant	TA = COP norms (g/km)	Deterioration Factor (D.F)
(1)	(2)	(3)
CO	0.75	1.2
HC + NOx	0.75	1.2

Notes :-

1. For vehicle operating on CNG mode, the provisions of rule 115-B shall be applicable.

2. For vehicles operating on LPG mode, the provisions of rule 115-C shall be applicable.

3. Gasoline or CNG or LPG vehicle specified herein shall comply with the provisions of clause (i) of sub-rule (2) of rule 115.

4.The reference fuel for gasoline vehicle shall be as specified in Annexure IV-J of the said rules and

reference fuel for CNG and LPG shall be as available commercially.

5. The specification of commercial gasoline shall be as specified in Annexure IV-N of the said rules and for the areas other than those specified in clause (a) of sub-rule (15) of rule 115 of principal rules commercial gasoline shall be as per Bureau of Indian Standards specification IS: 2796-2008 for gasoline. The specification for commercial CNg and LPG shall be as notified from time to time.

6. The provision of clauses (a), (c), (i), (e) and (f) of sub-rule 115, except the provision therein, shall be applicable to the said vehicle.

B. Two wheeled vehicles fitted with diesel engines-

[90a] [(17)The mass emission standards (Bharat Stage IV) for three wheelers: Mass emission standards (Bharat Stage IV) for new vehicle models of three wheelers manufactured on or after the 1st April, 2016 and for existing vehicle models of three wheeler manufactured on or after 1st April, 2017:

90a. Inserted by G.D.R. 487(E), dated 12-6-2015 (w.e.f. 12-6-2015).

A.Three wheelers fitted with gasoline engines:

TABLE 1

		HC + NOx	
	CO	If the evaporative emission complies with 2.0 g/test	If the evaporative emission complies with 6.0 g/test
(1)	(2)	(3)	(4)
TA = COP norms (g/km)	0.940	0.940	0.740
D.F. (Deterioration Factor)	1.2	1.2	1.2

B.Three wheelers fitted with Compressed Natural Gas(CNG) or Liquefied Petroleum Gas (LPG) engine:

TABLE 2

	CO	HC + NOx
(1)	(2)	(3)
TA = COP norms (g/km)	0.940	0.940
D.F. (Deterioration Factor)	1.2	1.2

C.Three wheelers fitted with compression ignition engine:

TABLE 3

	CO	HC + NOx	PM
(1)	(2)	(3)	(4)
TA = COP norms (g/km)	0.380	0.380	0.0425
D.F. (Deterioration Factor)	1.1	1.1	1.2

Explanation.- For the purposes of this clause, it is clarified that, -

(i) For vehicles operating on compressed natural gas mode, the provisions of rule 115-B shall be applicable.

(ii) For vehicles operating on liquefied petroleum gas mode the provisions of the rule 115-C shall be applicable;

(iii) The provisions of clauses (a), (c), (d), € of sub-rule (12), except the proviso therein at the end of that sub-rule, shall be applicable;

(iv) The reference fuel shall be as specified in Annexure IV-J for vehicles equipped with gasoline and Annexure IV-K for vehicles equipped with diesel engines and reference fuel for compressed natural gas and liquefied petroleum gas shall be as available commercially;

(v) The specification of commercial gasoline and diesel shall be as specified in Annexure IV-N and Annexure IV-O, respectively and for the areas other than those specified in clause (a) of sub-rule (15), commercial fuel shall be as per the Bureau of Indian Standards specification Is: 2796-2008 (Amendment No. 1-January, 2008) for gasoline and IS 1460:2005 (fifth revision) for diesel;

(vi) Specification for commercial compressed natural gas and liquefied petroleum gas shall be as notified from time to time;

(vii) Conformity of production (COP) test procedure shall be as described in MoRTH/CMVR/TAP-115/116 as amended from time to time;

(viii) Gasoline or compressed natural gas or liquefied petroleum gas vehicles specified herein shall comply with the provisions of clause (i) of sub-rule(2);

(ix) Diesel vehicles specified herein shall comply with the provisions of clause (ii) of sub-rule (2);

(x) Crank case ventilation for gasoline driven vehicles system shall not permit the emission of any of the crank case gases into the atmosphere;

(xi) Evaporative emission for gasoline driven vehicles shall not be more than 2.0 g/test or 6.0 g/test, depending on whether the norm for Hc + Nox adopted by manufacturer is from column (3) or column (4), respectively, of Table 1 of mass emission norms and the test procedure shall be as per MoRTH/CMVR/TAP-115/116, as amended from time to time.]

[91][115-A. 92[Emission of smoke and vapour from agricultural tractors, power tillers, construction equipment vehicles and combine harvesters driven by diesel engines.— (1) Every [92][agricultural tractors, construction equipment vehicles and combine harvesters] manufactured on and from the date of commencement of this rule shall be maintained by its owner in such condition and shall be so used that visible and gaseous pollutants emitted by them comply with the standards as prescribed in this rule.

(2) Every manufacturer of an [92][agricultural tractor, construction equipment vehicle and combine harvesters] shall comply with the standards for visible pollutants, emitted by it, when tested as per the procedure described in Indian Standards IS: 12062:1987.

(3) The emission of visible pollutants shall not exceed the limit values given below when tested on engine dynamometer at eighty per cent load at six equally spaced speeds, namely:—

(a) Fifty-five per cent of rated speed declared by the manufacturer or one thousand r.p.m., whichever is higher; or

(b) rated speed declared by the manufacturer.

Maximum Smoke Density	
Light absorption coefficient(lm)	Hartridge units
3.25	75

91. Inserted by G.S.R.627(E),dated8-9-1999(w.e.f.1-10-1999).

92. Substituted by G.S.R.589(E),dated 20-3-2015 (w.e.f. 1-4-2015).

(4) Every diesel driven [93][construction equipment vehicles] shall be so manufactured and produced by its manufacturer that it complies with the following standards of gaseous pollutants, emitted by them in addition to those of visible pollutants as provided in sub-rule (2) when tested as per the procedures described in ISO 8178-4 "CI"8 mode cycle, namely:—

The weighted average Mass of Carbon Monoxide (CO), Hydrocarbons (HC) and Mass Oxides of Nitrogen (NOx) in gram or [94][per] kilo watt. hr. emitted during the test shall not exceed the limits given below, both for type approval and Conformity On Production tests, namely:—

Mass of Carbon Monoxide(CO)	—	14.0 gram or 94[per] kilo watt. hr.
Mass of Hydrocarbon (HC)	—	3.5 gram or 94[per] kilo watt. hr.
Mass of Oxides of Nitrogen (NOx)	—	18.0 gram or 94[per] kilo watt. hr.]

94a [(5) Every diesel driven agriculture tractor and power tiller shall be so manufactured

And produced by the manufacturer that it complies with the following standards of gaseous pollutant emitted by them in addition to those of visible pollutants as provided in sub-rule (2)when tested as per the procedure prescribed in ISO 8178-4"CI"8 mode cycle, namely:—

The weighted average Mass of Carbon Monoxide (CO),Hydrocarbon(HC) and Oxides of Nitrogen (NOx) and Particulate Matter (PM) in gram per kilo watt hour emitted during the test shall not exceed the limits given below in the Table for Type Approval (TA) and Conformity of Production (COP) tests, namely:—

TABLE

	Bharat(Term)Stage II norms	Bharat(Term)Stage III norms
(1)	(2)	(3)
	TA=COP	TA=COP
Mass of Carbon Monoxide (CO)	9.0	5.5
Mass of Hydrocarbons (HC)	15.0	9.5
Mass of Oxides of Nitrogen (NOx)		
Mass of Particulate Matter (PM)	1.0	0.8]

Notes.—

(l)The norms mentioned in column (2) of the said Table which are applicable for agricultural tractor with effect from the 1st day of June, 2003, shall be applicable for power tillers from the1st day of October, 2006.

(2)The norms mentioned in column (3) of the said Table shall be applicable for agricultural tractor with effect from the 1st day of October, 2005 and for power tillers from the1st day of April, 2008.]

93.Substituted by G.S.R.83(E), dated 5-2-2003,for "agricultural tractor and construction equipment vehicle"(w.e.f.1-6-2003).

94. Corrected by G.S.R.800(E),dated 3-12-1999.

94a. Substituted by G.S.R. 589(E), dated 16-9-2005(w.e.f. 16-9-2005).

95[(6)] Every diesel driven construction equipment vehicle 95a [and self-propelled combine harvester] shall be so manufactured that it complies with the following standards of gaseous pollutants emitted by them in addition to those of visible pollutants as provided in sub-rule (2), when tested as per the procedure described in ISO 8178 Part-4 (1996) 'C1' 8 mode cycle for variable speed engines and ISO 8178 Part – 4 (1996) 'D2' 5 mode cycle for constant speed engines, namely:-

The weighted average Mass of Carbon Monoxide (CO), Hydrocarbon (HC) and Oxides of Nitrogen (NOx), and Particulate Matters (PM) in grams per kilo Watt hour emitted during the test shall not exceed the limits given below in the TABLE for type Approval (TA) and Conformity of Production (COP) tests, namely :-

TABLE

Limit Values for Type Approval (TA) as well as for Conformity of Production (COP)

Bharat Stage II (CEV)	Applicable with effect from the	CO	HC	NOx	PM
Category		g/kWh			
kW<8	1st October, 2008	8.00	1.30	9.20	1.0
8 – kW < 19	1st October, 2008	6.60	1.30	9.20	0.85
19 – kW < 37	1st October, 2007	6.50	1.30	9.20	0.85
37 – kW < 75	1st October, 2007	6.50	1.30	9.20	0.85
75 – kW < 130	1st October, 2007	5.0	1.30	9.20	0.70
130 – kW < 560	1st October, 2007	5.0	1.30	9.20	0.54

Bharat Stage III (CEV)	Applicable with effect from the	CO	HC + PM NOx	
Category		g/kWh		
kW < 8	1st April, 2011	8.00	7.50	0.80
8 – kW < 19	1st April, 2011	6.60	7.50	0.80
19 – kW < 37	1st April, 2011	5.50	7.50	0.60
37 – kW < 75	1st April, 2011	5.0	4.70	0.40
75 – kW < 130	1st April, 2011	5.0	4.00	0.30
130 – kW < 560	1st April,2011	3.50	4.00	0.20

Notes :-

1. The test shall be on Engine Dynamometer.

2. The Test-Procedure for measurement of Gross Power (without Fan) shall be as per Part IV of MoSRTH/CMVR/TAP-115/116 Issue No.3.

3. The Test-Procedure for measurement of emission of visible and gaseous pollutants and Particulate Matter shall be as per MoSRTH/CMVR/TAP -115/116 Part X (Sub-part B).

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95. Inserted by G.S.R. 276(E), dated 10-4-2007 (w.e.f. 10- 4-2007).

95a.Inserted by G.S.R. 212(E), dated 20-3-2015 (w.E.f. 1-4-2015).

4.The emission of visble pollutants shall not exceed the limit values given in sub-rule (3) of rule 115-A when tested on engines dynamometer at eighty per cent load at six speeds as per sub-rule (3) of rule 115-A.

5.To meet Bharat Stage III (CEV) norms with effect from 1st April, 2011, Engine manufacturer may opt for an engine test as mentioned in Table 1 below for evaluating deterioration factors as per Annexure V of Part X, sub-part B of MoSRTH/CMVR/TAP-115/116 Issue No.3.

TABLE 1

Category (power band)	Useful life (hours) (Emission Durability Period)
< 19 kW	3000
19 < kW< = 37(constant speed)	3000

19 < kW< = 37 (variable, speed)	5000
>37 kW	8000

OR

Fixed Deterioration factors shall be used as per table 2 below.

TABLE 2

CO	HC	NOx	PM
1.1	1.05	1.05	1.1

6. There shall be no relaxation of norms for COP purposes.

7. COP Selection Procedure shall be as per MoSRTH/CMVR/TAP-115/116 Part VI.

8. COP Frequency:-

(a) for equipment with annual production upto 200 Nos. shall be once in two years per Engine Family;

(b) for equipment with annual production exceeding 200 Nos. shall be once in every year per Engine Family.]

[95b][9. Bharat Stage III CEV) norms shall be applicable to self-propelled combine harvester on and from the commencement of the Central Motor Vehicles (Fourth Amendment) Rules, 2015.]

[95c][(7) Every diesel driven [95d][agricultural tractor and agricultural tractor-operated combine harvester] manufactured on and from the date specified in Column (2) of the Table 1 shall comply with the Bharat (Trem) Stage-III-A norms and the weighted average mass of Carbon Monoxide (CO), Hydrocarbon (HC) and Oxides of Nitrogen (NOx) and Particulate Matters (PM) in grams per kilo Watt/hour emitted by them in addition to those of visible pollutants as provided in sub-rule (2), when tested for type Approval (TA) and Conformity of production (COP) in accordance with the procedure specified in ISO 8178 Part-4 (1996) 'C1' 8 mode cycle, shall not exceed the limits given in columns (3), (4) and (5) respectively, of the said Table.

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95b. Inserted by G.S.R. 212(E0, dated 20-3-2015 (w.e.f. 1-4-2015).

95c. Inserted by G.S.R.84€, dated 9-2-2009 (w.e.f.9-2-2009).

95d. Substituted by G.S.R. 212€, dated 20-3-2015 (w.e.f.1-4-2015).

TABLE 1

Limits Values for Type Approval (TA) and Conformity of Production (COP)

Category	Applicable from	CO	HC + NOx	PM
(1)	(2)	(3)	(4)	(5)
<8 kW	1.4.2010	5.5	8.5	0.8
8< = kW < 19	1.4.2010	5.5	8.5	0.8
19<=kW < 37	1.4.2010	5.5	7.5	0.6
37<=kW < 56	1.4.2011	5.0	4.7	0.4
56<= kW < 75	1.4.2011	5.0	4.7	0.4
75<=kW < 130	1.4.2011	5.0	4.0	0.3
130<=kW < 560	1.4.2011	3.5	4.0	0.2

Notes :-

1. The test shall be on Engine Dynamometer.

2. The test procedure for measurement of Gross Power (without Fan) shall be as per Part IV of MoSRTH/CMVR/TAP-115/116 Issue No.3.

3. The test procedure for measurement of emission of visible and gaseous pollutants and Particulate Matter shall be as per MoSRTH/CMVR/TAP-115/116 Part X (sub-part A).

4. Test fuel shall be the reference fuel as specified in Annexure IV-P.

5. The emission of visible pollutants, when tested as provided in sub-rule (3) of rule 115-A, shall not exceed the limit values given therein.

6. To meet Bharat (Trem) Stage-III-A norms with effect from the date specified in column (2) of Table 1, the engine manufacturer may opt for an aging test as specified in Table 2 for evaluating deterioration factors as per Annexure V of Part X (sub-part B) of MoSRTH/CMVR/TAP/115-116 Issue No.3 or fixed deterioration factors as per Table 3.

TABLE 2

Category (power band)	Useful life (hours) (Emission Durability Period)
<=19 kW	3000
19<kW<=37	5000
>37 kW	8000

TABLE 3

CO	HC	NOx	PM
1.1	1.05	1.05	1.1

7. There shall be no relaxation of norms for Conformity of Production (COP) purposes.

8. Conformity of Production (COP) Selection Procedure shall be as per MoSRTH/CMVR/TAP-115/116 Part VI.

9. Conformity of Production (COP) Frequency shall be as per Part X (sub-part A) of MoSRTH/CMVR/TAP-115/116.

10. The extension of Type Approval (TA) to engine family and engine after-treatment system family shall be specified in MoSRTH/CMVR/TAP-115/116 as amended from time to time.

Explanation 1.- The term "engine family" includes a range of engines having similar design parameters for emission levels.

Explanation 2. – The term "engine after-treatment system family" means if same after-treatment system consisting of catalyst, particulate traps, etc., is used on a series of engines, then the deterioration factor based on engine test shall be applicable to the entire series.]

[96][(8) [96a][Every gasoline driven power tiller manufactured on and from 1st July, 2013 and every gasoline multi-utility industrial power sweeper and every gasoline agricultural tractor manufactured on and from 1st October, mass emission standards, when tested for Type Approval (TA) and Conformity of Production (COP) in accordance with the eigth mode test cycle as specified in the following Table 2 below: -]

TABLE 1

Mode	Engine Speed	Percent Load	Weighted Load
(1)	(2)	(3)	(4)
1.	Rated	100	0.15
2.	Rated	75	0.15
3.	Rated	50	0.15
4.	Intermediate speed	10	0.1
5.	Intermediate speed	100	0.1
6.	Intermediate speed	75	0.1

7.	Intermediate speed	50	0.1
8.	Idle	-	0.15

TABLE 2

Limit value for type Approval (TA) and Conformity of Production (COP)

Co(g/Kwhr)	HC+Nox(g/Kwhr)
(1)	(2)
14	24

Notes :-

1. Test shall be on engine dynamometer.
2. The Test procedure for measurement of gross power (without fan) shall be as per Is: 14599.
3. The reference fuel for Gasoline power tiller engine shall be as specified in Annexure IV-G of the said rules.
4. The test procedure for measurement of emission gaseous pollutants shall be as per procedure laid down in Ministry of Road Transport and Highways/Central Motor Vehicles Rules/Type Approvals Procedure-115/116 (MoRTH/CMVR/TAP-115/116).]

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96. Inserted by G.S.R. 515€, dated 29-6-2012 (w.e.f. 29-6-2012).
96a. Substituted by G.S.R. 543€, dated 30-7-2014(w.e.f. 30-7-2014).

[96b]**[115-B.Mass emission standards for Compressed Natural Gas Driven Vehicles**.—

[97][Mass emission standards for vehicles when operating on Compressed Natural Gas (here in after in this rule referred to as "CNG") shall be the same as are applicable for gasoline vehicles with the exception that HC shall be replaced by Non-Methane Hydrocarbon (NMHC), where NMHC =0.3 x HC]

[97a][Provided that bio-compressed natural gas (bio-CNG) shall be permitted for motor vehicles as an alternate composition of the compressed natural gas (CNG):

Provided further that the mass emission standards applicable to compressed natural gas (CNG) vehicles under these rules shall be applicable to respective vehicles when they use bio-compressed natural gas (bio-CNG):

Provided also that the bio-compressed natural gas (bio-CNG) composition meets the fuel specification for bio-compressed natural gas (bio-CNG) as per IS 16087 and meets the requirement of Siloxanes max 0.1 ppm (calculated as Si).]

A.Original Equipment /Converted Gasoline Vehicles:

(I).For gasoline vehicles with Original Equipment (here in after in this rule referred to as O.E.) fitment. 98[*(a)*In case of CNG fitments by vehicle manufacturers on new petrol vehicles, each model manufactured by vehicle manufacturers shall be type approved as per the prevailing mass emission norms as applicable for the category of new vehicles in respect of the place of its use;]

(b) Base model and variants of such vehicle shall conform to these rules as applicable and type approval emission norms in petrol mode as specified in these rules. In the case of CNG mode, it shall meet mass emission norms as specified in rule 115, excluding crankcase and evaporative emission norms.

[98a](c) Vehicle models and variants having option for bi-fuel operation and fitted with limp-home Gasoline tank of capacity not exceeding two litres, three litres and five litres respectively on two-wheeler, three wheeler and four wheeler shall be exempted from mass emission tests including all tests specified under sub-rule (2), Notes 6 and 7 mentioned below clause (c) of sub-rule (14) and Notes 6,7,15 and 16 of sub-clause (i) of clause (b) of sub-rule (15) of rule 115 in Gasoline mode;

(d).Prevalent conformity of production procedure shall also be applicable.

(II) For in-use gasoline vehicles. – (a) The in-use vehicles fitted with CNG kits shall meet the type approval emission norms on CNG operation, as specified in these rules for gasoline vehicles as applicable to the corresponding year of manufacturer of such vehicles, subject to a minimum norms as under:-

(i) For the vehicles manufactured up to 31st March, 2000, the type approval norms equivalent to India – 2000 (India Stage I) norms as applicable under these rules; and

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96b.R. 115-B substituted by G.S.R. 853€ dated 19-11-2001 (w.e.f. 19-5-2002).

97. Substituted by G.S.R. 111(E) , dated 10-2-2004 (w.e.f. 10-8-2004).

97a. Inserted by G.S.R. 498(E), dated 16-6-2015 (w.e.f. 16-6-2015).

98.Cl. (a) substituted by G.S.R 589 (E), dated 16-9-2005 (w.e.f. 16-9-2006).

98a. Substituted by G.S.R. 84(E), dated 9-2-2009 (w.e.f. 9-2-2009).

[98b][(ii) for the vehicles manufactured on or after the 1st April, 2000, and up to the 30th September, 2010, the type approval norms as specified in the Bharat Stage-II norms;]

[98c][(iii) for the vehicles manufactured on and after the 1st day of April, 2005, the type approval norms as applicable subject to minimum of Bharat Stage III emission norms as applicable subject to minimum of Bharat Stage III emission norms in case of four-wheelers and Bharat Stage II emission norms for two and three-wheelrs;]

[99][(iv)for the vehicles manufactured on and after 1st day of April 2010, the type approval norms as applicable, subject to minimum of Bharat Stage-IV emission norms for category M and Category N Vehicles with Gross Vehicle Weight not exceeding 3500 kg and Bharat Stage-III emission norms for two and three wheelers.]

(c) For purposes of CNG kit approval, kit manufacturer or supplier shall obtain in the certified from any of the test agencies authorised under rule 126 based on engine capacity of vehicle, in the following manner, namely:

(i)CNG kit for the vehicle shall be approved for vehicles irrespective of make and model. Such a kit shall be considered fit for retro fitment in any vehicle within a specified range of engine capacity of c.c.

(ii)Separate type approval shall be necessary for the following types of vehicles, namely :-

(a)Two stroke;

(b)Four stroke;

(c)Carburetted;

(d)Single point fuel injected; and

(e) Multi point fuel injected.

Explanations.—In the case of O.E. or conversion of "In-Use" Gasoline Vehicles,—

(a) For the purposes of granting Type Approval to a CNG kit, the tests shall be carried out as per the Table below by the test agencies.

TABLE

	Test	Reference Document
	(1)	(2)
(i)	Mass emission tests	MOST/CMVR/TAP-115/116 and notifications issued by the
(ii)	Engine performance tests on engine dynamometer applicable for OE only	Government of India in this respect IS:14599-1999
[(iii)	Fuel consumption test	S1.No. 31 of the notification number S.O 1365(E0, dated the 13th December, 2004]

(b) The test procedure and safety guidelines for CNG vehicles, kit components including Installation thereof, shall be as per A1S 024, as amended from time to time, till such time as corresponding BIS specifications are notified.

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98b. Substituted by G.S.R. 498€, dated 16-6-2015 (w.e.f. 16-6-2015).

98c. Cl. (iii) inserted by G.S.R. 589€, dated 16-9-2005 (w.e.f. 16-9-2006).

99. Inserted by G.S.R.84 (E), dated 9-2-2009(w.e.f. 9-2-2009).

1. Substituted by G.S.R.84 (E), dated 9-2-2009 (w.e.f. 9-2-2009).

(c) For OE fitment and retro fitment on "in-use" vehicles, there responsibility to Type Approval shall be that of the vehicle manufacturer and kit manufacturer or supplier respectively.

(d) The Type Approval of CNG kit for "retrofitment" shall be valid for three years from the Date of issue of such approval and shall be renewable for three years at a time.

(e) The retrofitment of CNG kits on in-use vehicles shall be carried out by workshops authorized by the kit manufacturer / supplier or vehicle manufacturers, as the case may be.

(f) The test agency shall complete the test and give necessary certificate with in a period of three months from the date of receiving the kits.

(g) The kit manufacturer/supplier shall provide a layout plan for retrofitment of CNG kit in the respective models on which any approved kit is to be installed, to the test agency for vetting and approval. The retrofitment of the kit shall be on the basis of such approved layout plan only. Testing agencies will be required to indicate specifically, the models and their variants on which the certificate will be valid.

[2][** *]

A. O.E. CNG Vehicles/Converted Diesel Vehicle:

(I) For O.E. CNG Dedicated Vehicle (including drive-away chassis) made by vehicle manufacturers.—[2a]*[(a)*In case of CNG fitments by vehicle manufacturers on new diesel vehicles, each model manufactured by vehicle manufacturers shall be type approved as per the prevailing mass emission norms as applicable for the category of new vehicles in respect of the place of its use;]

*(b)*O.E.CNG engine approved for specific engine capacity can be installed on the base model and its variants complying with the requirements under these rules as applicable;

(c) Tests for particulate matter and emission of visible pollutants (smoke) under these

Rules shall not be applicable;

(d) Prevailing COP procedure will also be applicable.

(II) For conversion by modification of engines of In-use Diesel Vehicles.

(a) Type approval for diesel vehicle retrofitted/modified for dedicated CNG operation shall be given for specific make and model of the vehicle, in view of major changes or modifications involved in the CNG kit and diesel engine depending upon make and model of the vehicle;

(b) CNG kit approved on the vehicle for specific engine capacity can be installed on the base model and its variants fitted with the same capacity engine;

2a[(c) The in-use vehicles when converted to operate on CNG shall meet the type Approval norms of diesel vehicles corresponding to the year of their manufacture subject to the following minimum norms:—

(i) for the vehicles manufactured upto the 31st day of March, 2000, the type approval norms equivalent to India-2000 (India Stage I) norms as applicable under these rules;

[3](ii) for the vehicles manufactured on and after the 1st day of April, 2000, the type approval norms as specified in the Bharat Stage II norms, till the validity of such Bharat Stage II norms;]

2.Items A, CI. (III) omitted by G.S.R. 111(E), dated 10-2-2004(w.e.f. 10-8-2004).
2a. Substituted by G.S.R. 498(E), dated 16-9-2005 (w.e.f. 16-9-2006).
3.Substituted by G.S.R. 498 (E), dated 16-6-2015 (w.e.f. 16-6-2015).

(iii) For the vehicles manufactured on and after the 1st day of April, 2005, the type approval norms as applicable subject to minimum of Bharat Stage III emission norms in case off our-wheelers and Bharat Stage II emission norms for two and three-wheelers till the validity of these norms;]

[3a][(iv) for the vehicle manufactured on and after 1st April 2010, the type approval norms as applicable, shall be subject to minimum of Bharat Stage-IV emission norms in case of four wheelers and Bharat Stage-III emission norms in case of two and three wheelers till the validity of these norms;]

(d) Vehicles offered for Type Approval to the testing agency referred in rule 126 of the Central Motor Vehicles Rules, 1989 shall have to comply with fitness requirement, as applicable under these rules;

(e)Tests for particulate matter and emission of visible pollutants (smoke) under these Rules shall not be applicable;

(f)Separate Type Approval is required for mechanically controlled and electronically controlled diesel fuel injected vehicles when retrofitted/modified for CNG operation.

Explanations.—In the case of O.E. or conversion of" In-Use" vehicles by modification—

(a) For the purpose of granting Type Approval to the vehicle fitted with CNG engine (converted from diesel engine) as O.E., or conversion by modification of "In-Use" diesel vehicles, performance tests shall be carried out as per the Table given below by the test agencies, namely:—

TABLE

Test	Reference Document (As amended from time to time)
(1)	(2)
(i) Mass emission tests	MOST/CMVR/TAP-115/116 and notifications issued by the Government of India in this respect
(ii) Engine performance tests	IS : 14599-1999
(iii) Gradeability	In accordance with notification issued under rule 124 of Central Motor Vehicle Rules, 1989
[3b](iv) Fuel Consumption test	SI. No. 32 of the notification number S.O. 1365(E), dated the 31st December, 2004]
(iv) Electro-Magnetic Interference (EMI)	In accordance with notification issued under rule 124 of Central Motor Vehicle Rules, 1989
(v) Range Test of at least 250 kn for buses	-
(vi) Cooling Performance	IS: 14557, 1998

Note.- The mass emission tests shall be carried out either on engine dynamometer or chassis dynamometer, as applicable.

(b) Tests procedure and safety guidelines for CNG vehicles, kit components including installation thereof, shall be as per AIS 024, as amended from time to time, till such time as corresponding BIS specifications are notified;

3a. Inserted by G.S.R. 84(E), dated 9-2-2209 (w.e.f. 9-2-2009).
3b. Substituted by G.S.R.84(E), dated 9-2-2009 (w.e.f. 9-2-2009).

(c) For O.E. fitment and retro fitment/modification on "In-Use" vehicles, the responsibility of Type Approval shall be that of the vehicle manufacturer and kit manufacturer or supplier respectively;
(d) The Type Approval of CNG kit for retro fitment shall be valid for 3 years from the date of issue and shall be renewable for three years at a time;
(e) The retro fitment of CNG kits on in-use vehicles shall be carried out by workshops authorised by the kit manufacturer/supplier or vehicle manufacturers, as the case may be;
(f) The test agency shall complete the test and give necessary certificate within a period of three months from the date of receiving the kits.
[4][***]

[5][**C. Replacement of In-Use Diesel Engine by New CNG Engine. –** For Type Approval of in-use vehicle diesel engine replaced by new Compressed Natural Gas engine, it shall meet prevailing emission norms as applicable to the category of vehicle in respect of its place of use subject to tests mentioned in the Table given below.]

TABLE

Test	Reference Document
(1)	(2)
(i) Mass emission tests	MOST/CMVR/TAP-115/116 notification issued by the Government of India in this respect
(ii) Engine performance tests	IS : 14599 – 1999
(iii) Gradeability	In accordance with notification issued under rule 124 of Central Motor Vehicles Rules, 1989
(iv) Electro Magnetic Interference (EMI)	In accordance with notification issued under rule 124 of Central Motor Vehicles Rules, 1989
(v) Range test of at least 250 km for buses	-
(vi) Cooling Performance	IS : 14557, 1998
[5a][(vii) Fuel Consumption test	SI. No. 31 of the notification number S.O. 1365(E), dated the 13th December, 2004]

Explanation.—

(a) Vehicles offered for Type Approval to the testing agency referred in rule 126 shall have to comply with fitness requirement, as applicable under these rules.
(b) Test procedure and safety guidelines for such CNG vehicles, kit components including installation there of shall be as per A1S 024, as amended from time to time, till such time as corresponding BIS specifications are notified.
(c) The test agency shall complete the test and give necessary certificate with in three months of the same being submitted for tests.
(d) Testing agencies will be required to indicate specifically, the models and their Variants on which the replacement of new engine will be valid.

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2. Item B, CI. (III) omitted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).
3. Part C substituted by G.S.R. 589 (E), dated 16-9-2005 (w.e.f. 16-9-2006).
5a. Substituted by G.S.R. 84€, dated 9-2-2009 (w.e.f. 9-2-2009).

[5b].(D) Applicable Emission Norms

Category of Engines	Applicable Emission Norms
(i) OE CNG Category M and Category N Vehicles with GVW equal to or less than 3,500 kg, three wheelers and two wheelers.	Prevailing gasoline norms
(ii) CNG Category M and Category N Vehicles with GVW equal to or less than 3,500 kg, three and two wheelers retro fitment from gasoline vehicles.	Prevailing gasoline norms.
(iii) CNG Category M and Category N vehicles with GVW equal to or less than 3,500 kg, three and two wheelers retro fitment from diesel vehicles.	Prevailing diesel norms.
(iv) CNG engines Category M and Category N vehicles with GVW greater than 3,500 kg manufactured upto 1st April 2010.	Prevailing diesel engine norms based on 13-mode steady-state engine dynamometer test or 13-mode Engine Steady State Cycle as applicable.
(v) CNG engines for Category M and Category N vehicles with GVW greater than 3,500 kg manufactured on and from 1st April 2010	Prevailing diesel engine emission norms.]

[5c][E. CNG vehicles / kit components including installation shall comply the Safety Checks as given in Annexure IX.]

F. Testing agencies shall issue every Type Approval certificate containing the "Safety and Procedural Requirements for Type Approval of CNG and LPC Operated Vehicles" for CNG vehicles and conversion kits, as mentioned in Annexure X.
Note:—

1. For the purpose of these rules, "O.E. fitment" means the vehicles which are manufactured for CNG operation by the vehicle manufacturer prior to their first registration.
2. "Conversion of In-use Gasoline Vehicle" means a vehicle already registered as a gasoline vehicle and is subsequently converted for operation on CNG by fitting the conversion kit and carrying out the other necessary changes.
3. "O.E. CNG Dedicated Vehicles "means the vehicles which are manufactured for CNG operation by the vehicle manufacturer prior to their first registration.
4. "Converted diesel vehicle "means a vehicle already registered as a diesel vehicle and is subsequently converted for operation on CNG by modifying the diesel engine fitted on that vehicle by fitting the conversion kit and carrying out the other necessary changes.
5. "Retrofitment" (or replacement) of diesel vehicle means a vehicle already registered as a diesel vehicle and is subsequently converted for operation on CNG fitting a new engine adapted to operate on CNG.
6. The AIS or IS specifications may be amended from time to time.

5b. Substituted by G.S.R. 84(E), dated 9-2-2009 (w.e.f. 9-2-2009).
5c. Substituted by G.S.R. 534(E), dated 24-7-2014 (w.e.f. 24-7-2014).

[6][7. In case of conversion kits on in-use gasoline vehicles or converted diesel vehicles, the validity of the type approval certificate issued by the testing agencies shall cover vehicles manufactured between the year of manufacture of the vehicle, on which such kit has been tested and date of the

validity of the applicable norms prescribed for such category of vehicles as per clause *(a)* of Item (II) of part A of rule115-B.Testing agencies shall be required to indicate specifically the model and their variants for diesel vehicles and capacity range of gasoline vehicles on which the certificate shall be valid for conversion.]

[7]**[115-C Mass emission standards for Liquefied Petroleum Gas (hereinafter in this rule Referred to as LPG), driven vehicles**. —8[(1) Mass emission standards for vehicles when operating on Liquefied Petroleum Gas (here in after in this rule referred to as "LPG") shall be same as are applicable for gasoline vehicles with the exception that HC shall be replaced by Reactive Hydrocarbon (RHC), where RHC=0.5xHC]

(2) For gasoline vehicles with Original Equipment (here in after in this rule referred to as O.E.) Fitment,—

[9](a) In case of LPG fitment done by vehicle manufacturers on new petrol vehicles, each model made by vehicle manufacturer shall be as type approved as per prevailing type approval emission norms and these rules as applicable;

(b) Base model and variants of such vehicle shall conform to these rules as applicable And type approval emission norms in petrol mode as specified in these rules. In the case of LPG model, it shall meet mass emission norms as specified in rule 115 only excluding crank case and evaporative emission norms;

[9](c) a vehicle models and variants having option for bi-fuel operation and fitted with limp-home Gasoline tank of capacity not exceeding two litres, three litres and five litres respectively on two-wheelers, three-wheelers and four-wheeler shall be exempted from mass emission tests including all tests specified under sub-rule (2), Notes 6 and 7 mentioned below clause © of rule (15) of rule 115 in Gasoline mode;

(d)Prevalent conformity of production procedure shall also be applicable.]

(3) For in-use gasoline vehicles, -

[6][(a) On and after expiry of one year from the date of publication of the Central Motor Vehicles (Fifth Amendment) Rules, 2005 in the Official Gazette, the in-use vehicles fitted with LPG kits shall meet the type approval emission norms specifies in these rules for gasoline vehicles as applicable to the corresponding year of manufacture of such vehicle, subject to the following minimum norms:

(i) for the vehicles manufactured upto the 31st day of March, 2000, the type approval norms equivalent to India-2000 (India Stage I) norms as applicable under these rules;

[9a][(ii) for the vehicles manufactured after the 1st day of April, 2000, the type approval norms as specified in the Bharat Stage II norms till the validity o such Bharat Stage II norms;

(iii)for the vehicles manufactured after the 1st day of April, 2005, the type approval norms as applicable subject to minimum of Bharat Stage III emission norms in case off our-wheelers and Bharat Stage II emission norms for two and three-wheelers:

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6.Substituted by G.S.R.589(E), dated 16-9-2005 (w.e.f.16-9-2006).

7.Inserted by G.S.R.284(E),dated 24-4-2001 (w.e.f.24-5-2001).

8.Substituted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004)

9.Substituted byG.S.R.84(E),dated 9-2-2009 (w.e.f.9-2-2009)

9a. Substituted by G.S.R. 498(E), dated 16-6-2015 (w.e.f. 16-6-2015).

Provided that in respect of vehicle model/conversion kits/engine replacements type approved and certified under rule 115-C prior to commencement of these rules (as per notification number G.S.R. 284(E), dated the 24th April, 2001), such certificates shall cease to be valid after one year from the date of publication of the Central Motor Vehicles (Fifth Amendment) Rules, 2005, in the Official Gazette notwithstanding the period of validity specified in such certificates. Such certificates need to be revalidated by testing agencies in terms of these rules:

Provided further that respective kit manufacturer /retrofitter / converter shall be free to obtain from testing agencies type approval in terms of new rules even prior to commencement of these rules;]

[9b]*[(iv) for the vehicles manufactured on and after the 1st day of April 2010, the type approval norms as applicable, subject to minimum of Bharat Stage-IV emission norms for Category M and Category N vehicles with Gross Vehicle Weight not exceeding 3500 kg and Bharat Stage-III emission norms for two and three wheelers.]*

(b) for purposes of LPG kit approval, kit manufacturer or supplier shall obtain the Certificate from any of the test agencies authorised under rule 126 based on capacity of vehicle, in the following manner, namely:—

(i) LPG kit for the vehicles shall be type approved for vehicles irrespective of make and model based on engine capacity in cubic cm. Such a kit shall be considered fit for retrofitment in any vehicle having engine capacity within a range of +-25% tolerance ;

[9c][(ii) separate type approval shall be necessary for the following types of vehicles –

(a) Two stroke
(b) Four stroke
(c) Carbureted
(d) Single point fuel injected; and
(e) Multi point fuel injected.]

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(4)(a) For the purpose of granting type approval to LPG kit the following performance tests shall be carried out by the test agencies:—

(i) Massemissiontests.
(ii) Engineperformancetests.
(iii) Constant speed fuel consumption test;

(b) the tests specified under sub-clause *(ii)* of clause *(a)* shall be carried out either on engine dynamometer or chassis dynamometer as applicable under these rules. However in case of vehicle above 100 HP the tests shall be only on engine dynamometer;

(c) the safety checks for such kit components including installation shall be as per the norms and standards given in the Annexure VIII, apart from detailed test procedure or safety guide lines contained in AIS 025 Dl, as approved by the Central Government from time to time;

(d)For OE fitment and retrofitment on "in-use" vehicles, the responsibility of Type

Approval shall be that of the vehicle manufacturer and kit manufacturer or supplier, respectively;

(e)The Type Approval of LPG kit for retrofitment shall be valid for three years from the Date of issue of such approval and shall be renewable for three years at a time;

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9b. Inserted by G.S.R.84(E), dated 9-2-2009 (w.e.f. 9-2-2009).
9c. Substituted by G.S.R. 84(E), dated 9-2-2009 (w.e.f. 9-2-2009).

(f) The retrofitment of LPG kits on in-use vehicles, shall be carried out by workshops authorised by the kit manufacturer/kit supplier or vehicle manufacturers, as the case may be;

(g) The test agency shall complete the test and give necessary certificate within a period of three months from the date of receiving the kits;

(h) The kit supplier/manufacturer shall provide a layout plan for retrofitment of LPG kit in the respective models on which any approved kit is to be installed, to the test agency for vetting and approval.The retrofitment of the kit shall be on the basis of such approved layout plan only.

10[** *]

11[(6) For *Diesel Vehicles with Original Equipment fitment.*—12 [(i) In case of LPG fitments by vehicles manufacturers on new diesel vehicles, each model manufactured by vehicle manufacturers

shall be type approved as per the prevailing mass emission norms as applicable for the category of new vehicles in respect of the place of its use;]

(ii)O.E. fitment LPG engine approved for specific appropriate engine capacity can be installed on the vehicle base model and its variants complying with the other requirements under these rules as applicable;

*(iii)*Tests for particulate matter and emission of visible pollutants (smoke) under these rules shall not be applicable; and

(iv) Prevailing COP procedures shall also be applicable;

(v) In case of limits for Hydrocarbons, the mass emission standards formula as specified in sub-rule (1) shall be applicable.

Explanation.—In the case of O.E. fitment vehicles:—

(a) For the purpose of granting Type Approval to the vehicle manufactured by O.E., in addition to the tests as specified in Central Motor Vehicles Rules,1989,following performance tests shall be carried out, as per the Table given below by the test agency, namely:—

TABLE

SI. No.	Test	Reference Document (as amended from time to time)
(1)	(2)	(3)
1.	Mass emission tests	MOST/CMVR/TAP-115/116 and notification issued by the Government of India in this respect
2.	Engine performance tests	IS:14599-1999
3.	Gradeability test	In accordance with notification issued under rule 124 of Central Motor Vehicles Rules,1989
[12 a] [4.	Fuel Consumption test	S1. No 31 of the notification number S.O 1365(E), dated the 13th December, 2004]
5.	Electro-Magnetic Interference (EMI)	In accordance with notification issued under rule 124 of Central Motor Vehicles Rules,1989
6.	Range test of at least 250 Km for buses. For other vehicle categories range test to be carried out and test results to be reported.	AIS 055
7.	Cooling performance	IS:14557-1998

10.Sub-rule (5)omitted byG.S.R. 589(E),dated16-9-2005 (w.e.f.16-9-2005).

11.Inserted by G.S.R788(E),dated 27-11 -2002 (w.e.f.2-6-2003).

12. substituted by G.S.R.589(E),dated 16-9-2005(w.e.f.16-9-2006).

12a.Substituted by G.S.R. 84(E), dated 9.2.2009 (w.e.f. 9.2.2009)

Note:—The mass emission tests shall be carried out either on engine dynamometer or chassis dynamometer, as applicable;

(b) Test procedure and safety guidelines for LPG vehicles, kit components including Installation thereof, shall be as per AIS 025, AIS 026, AIS 027 as amended from time to time, till such time as corresponding BIS specifications are notified and shall be as given in Annexure –VIII in addition to the detailed procedure of Safety Checks contained in AIS 025, AIS026, AIS027;

(c) For O.E. fitment manufactured vehicles, the responsibility of Type Approval shall be that of the vehicle manufacturer;

(d) The test agency shall complete the test and give necessary certificate within a period of three months from the date of receiving the kits.

13[(7) *Replacement of In-use Diesel Engine by new LPG Engine.*—For type approval of in-use vehicle having diesel engine replaced by new Liquefied Petroleum Gas engine it shall meet the

prevailing emission norms as applicable to the category of vehicles in respect of its place of use subject to the tests mentioned in the Table given below]:—

TABLE

SI. No.	Test	Reference Document (as amended from time to time)
(1)	(2)	(3)
1.	Mass emission tests	MCST/CMVR/TAP-115/116 and notification issued by the Government of India in this respect
2.	Engine performance tests	IS:14599-1999
3.	Gradeability test	In accordance with notification issued under rule 124 of Central Motor Vehicles Rules, 1989
[13a]4.	Fuel Consumption test	S1. No.31 of the notification number S.O. 1365(E), dated the 13th December, 2004
5.	Electro-Magnetic Interference (EMI)	In accordance with notification issued under rule 124 of Central Motor Vehicles Rules, 1989
6.	Range test of at least 250 km for buses. For other vehicle categories, range test to be carried out and test results to be reported.	AIS 055
7.	Cooling performance	IS:14557-1998

Explanation.—(a) In case of in-use vehicles offered for Type Approval to the test agency Referred to in rule126, it shall have to comply with fitness requirement, as applicable under these rules and the said test agency may, if it thinks so, verify the same;

*(b)*In case of non-transport vehicles offered for retrofitment as per the tests mentioned in the Table, it shall be the responsibility of the retrofitter to make necessary inspection/checks regarding fitness of the such vehicles as applicable under these rules: In the case of retrofitment of in-use transport vehicles offered for the tests mentioned in the Table, the certificate of fitness granted under section 56 of the Act, shall be essential before the vehicle is accepted for retrofitment/conversion;

13.Substituted by G.S.R. 589(E), dated 16.9.2005 (w.e.f. 16.9.2005)
13a.Substituted by G.S.R. 84(E), dated 9-2-2009 (w.e.f. 9-2-2009).

(c) Test procedure and safety guidelines for such LPG vehicles, kit components including installation there of shall be as per AIS 025, as amended from time to time, till such time as corresponding BIS specifications are notified and shall be as given in Annexure VIII in addition to the detailed procedure or Safety checks contained in AIS 025;

(d) The test agency shall complete the test and give necessary certificate within a period Of three months from the date of the vehicle being submitted for tests; and

(e) The test agency shall be required to indicate specifically, the models and their variants on which the replacement of new engine shall be valid.

(8)Applicable emission norms.—The emission norms as mentioned in column (3) of the Table below excluding particulate matter shall be applicable to the corresponding categories of engines as mentioned against them in column (2) of the said Table.

TABLE

SI. No.	Category of Engines	Applicable Emission Norms
(1)	(2)	(3)
[13a][(i)	OE LPG Category M and Category N Vehicles with GVW equal to or less than 3,500 kg, three wheelers and two wheelers	Prevailing gasoline norms

(ii)	LPG Category M and Category N Vehicles with GVW equal to or less than 3,500 kg, three and two wheelers retro fitment from gasoline vehicles.	Prevailing gasoline norms
(iii)	LPG Category M and Category N vehicles with GVW equal to or less than 3,500 kg, three and two wheelers retro fitment from diesel vehicles.	Prevailing diesel norms
(iv)	LPG engines Category M and Category N vehicles with GVW greater than 3,500 kg manufactured up to 1st April 2010	Prevailing diesel engine norms based on 13-mode steady state engine dynamometer test or 13-mode Engine Steady State Cycle as applicable
(v)	LPG engines for Category M and Category N vehicles with GVW greater than 3,500 kg manufactured on and from 1st April 2010	Prevailing diesel engine emission norms.]

(9) LPG vehicle/kit components including installation shall comply with the Safety Checks as given in Annexure VIII.

(10) The test agency shall, in addition to the Type Approval Certificate, issue Safety and Procedural Requirements for Type Approval Certificate containing the Safety and Procedural Requirements for Type Approval *of* CNG and LPG Operated Vehicles, for LPG vehicles and conversion kits, as mentioned in Annexure X.

Note:—For the purposes of these rules,—

(1) "OE fitment" means the vehicle engines which are manufactured for LPG operation by the vehicle manufacturer prior to their first registration;

(2) "Conversion of In-use gasoline vehicle" means a vehicle already registered as a gasoline vehicle and subsequently converted for operation on LPG by fitting the conversion kit and carrying out the other necessary changes;

(3) "O.E. fitment LPG dedicated vehicle "means a vehicle which is manufactured for LPG operation by the vehicle manufacturer prior to their first registration;

(4) "Type approval of In-use vehicle having diesel engine replaced by new LPG engine" means a vehicle already registered as a diesel vehicle and is subsequently converted for operation on LPG by fitting a new engine adapted for operation on LPG;

(5) The AIS or IS specifications may be as amended and notified from time to time.]

[14][(6)In case of conversion kits on in-use gasoline vehicles or replacement of in-use diesel engines by new LPG engines, the validity of the type approval certificates issued by the testing agencies shall cover vehicles manufactured between the year of manufacture of the vehicle, on which such kit had been tested and the date of validity of the norms prescribed for such category of vehicles as per clause *(a)* of sub-rule (3) of rule 115-C.Testing agencies shall be required to indicate specifically, the model and their variants for diesel vehicles and capacity range of gasoline vehicles on which the certificate shall be valid for conversion.]

[14a][115-D. Retro fitment of hybrid electric system kit to in-use vehicles. – Retro fitment of hybrid electric system kit to in-use vehicles registered in India shall be permitted if –

(a) The in-use vehicle intended for retro fitment complies with following conditions, namely :-

(i) It conforms to Bharat Stage –II or subsequent emission norms;

(ii) it belongs to category M1 or category M2 or category N1 with Gross Vehicle Weight not exceeding 3500 kg.

(iv) it is fuelled by either gasoline or diesel fuel;

(v) it was not retrofitted earlier;

(vi) it will not be fuelled by any other alternate fuel;

(a) mass emission standards for vehicles so retrofitted shall be the same as prevalent for corresponding petrol or diesel vehicles as applicable for the year of manufactured of the said vehicle;

(b) the vehicle, after retrofitment, shall meet the requirement of AIS-123:

2013 as amended from time to time till such time as corresponding Bureau of Indian Standard specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986):

Provided that for the purpose of hybrid electric system kit approval, kit manufacturer or supplier shall obtain the type approval certificate from a test agency specified in rule 126 and the validity of such certificate shall be three years from the date of its issue;

(c) the installation of type approved hybrid electric system kit shall be done only by an installer authorized by the hybrid electric system kit manufacturer or supplier, and the installer shall adhere to the installer's responsibilities and the code of practice detailed in the AIS-123 : 2013, as amended from time to time, till such time as corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986.]

[14b]**[115-E. Mass emission standards for flex-fuel ethanol (E85) and ethanol (ED95) vehicles.-**

(1) The newly manufactured gasoline vehicles fitted with spark ignition engine compatible to run on gasoline or a mixture of gasoline and ethanol up to eighty-five percent ethanol blend (E85) (hereinafter referred to as flex-fuel ethanol vehicle), shall be type approved as per prevailing gasoline emission norms.

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14.Inserted by G.S.R. 589(E), dated16-9-2005(w.e.f.16-9-2006).

14a.Substituted by G.S.R. 364(E),dated 28-5-2014(w.e.f.28-5-2014).

14b.Inserted by G.S.R. 412€, dated 19-5-2015 (w.e.f 21-5-2015).

(2) The newly manufactured ethanol vehicle with Gross Vehicle Weight above 3.5 tonnes compatible to run on ethanol fuel (ED95), shall be type approved as per prevailing diesel emission norms, as applicable for that category.

(3) The compatibility of vehicle to level of ethanol blend of E85 or ED95 shall be defined by the vehicle manufactured and the same shall be displayed on vehicle by putting a clearly visible sticker.

(4) Test requirements for the type approval and extension for different classes of vehicles are specified in Table 1, Table 2 and Table 3 below,respectively:-

TABLE 1

TEST REQUIREMENTS FOR TYPE APPROVAL AND EXTENSION FOR FOUR WHEELED VEHICLES WITH GROSS VEHICLE WEIGHT LESS THAN OR EQUAL TO 3,500 KG

S. No	Test	Flex-fuel ethanol vehicle
1	Gaseous pollutants (type I test)	On both gasoline and E85 fuel
2.	Idle and high idle emission (Type II test)	On both gasoline and E85 fuel
3.	Crank case emission (Type III)	Only on gasoline fuel
4.	Evaporative emissions (Type IV)	Only on gasoline fuel
5.	Durability (Type V), if opted for, instead of fixed deterioration factor	Only on gasoline fuel
6.	On-board diagnostics (OBD II)	On both gasoline and E85 fuel

TABLE 2

S. No	Test	Flex-fuel ethanol vehicle
1.	Gaseous pollutants (Type I test)	On both gasoline and E85 fuel
2.	Idle and emission (Type II test)	On both gasoline and E85 fuel
3.	Crankcase emission (Type III)	Only on gasoline fuel
4.	Evaporative emissions (Type IV)	Only on gasoline fuel
5.	Durability (Type V), if opted for, instead of fixed deterioration factor	Only on gasoline fuel

TABLE 3

S. No	Test	Applicability
1.	Gaseous pollutants	Test on ED95 fuel (as per prevailing emission norms BSII or BIV)
2.	Free acceleration smoke	Test on ED95
3.	Durability, if opted for, instead of fixed deterioration factor	Test on ED95
4.	On-board diagnostics (OBD)	Test on ED95

Note. – (i) Mass emission tests shall be carried out as per MoRTH/CMVR/TAP-115/116 Issue 4 and its subsequent issues or amendments, as applicable and suitable updation of the ratios of gas component densities to exhaust gas density, hydrogen-carbon-oxygen ratio and fuel consumption formula shall be done in type approval procedure.

(ii) Vehicle manufacturer shall submit the vehicle to any of the test agencies specified in rule 16, for type approval.

(iii) Flex fuel vehicles with Gross Vehicle Weight less than or equal to 3.5 tonnes shall be tested on chassis dynamometer using the prevailing gasoline vehicle emission driving cycle; and ED95 fuel vehicles with Gross Vehicle Weight greater than 3.5 tonnes shall be tested on engine dynamometer using the prevailing diesel engine emission driving cycle.

(iv) Flex fuel vehicles shall be tested with reference fuel specified in Annexure IV-J and IV-Q and pure ethanol fuel vehicle shall be tested with reference fuel specified in Annexure IV-R to these rules.

(v) For Conformity of Production test applicability, refer to MoRTH/CMVR/TAP-115/116 Issue 4 and its subsequent issues. Or amendments, as applicable; and fuel requirement for applicable tests, refer to above Table 1, Table 2 and Table 3.

(vi) The reference fuel shall be as specified in Annexure Iv-J for gasoline; Annexure IV-Q for E85 vehicles and in Annexure IV-R for Ed95 vehicles.

(vii) For commercial fuel specifications for gasoline IS 2796:2008 and its subsequent amendments may be referred.

(viii) For base ethanol specifications refer IS 15464:2004 and for E85 and ED95 commercial fuel, oil marketing companies shall use suitable additives to produce and dispense such grade of fuel. Specification for commercial E85 and ED95 shall be prepared by Bureau of Indian Standards.

(ix) The Conformity of Production frequency and sampling shall be as per requirements given in MoRTH/CMVR/TAP-115/116 Issue 4 and its subsequent issues or amendments, as applicable, according to category or vehicle.

(x) Deterioration factors shall be as per prevailing emission norms, according to the vehicle categories, where durability test is applicable.

(xi) For spark ignition vehicle, where measurement of net power is specified in the case of normal gasoline vehicles, it shall be carried out on engine dynamometer as per IS: 14599-1999, with gasoline, as amended from time to time.

[14c][115-F. Mass emission standards for bio-diesel (B100).- (1) The newly manufactured vehicles fitted with compression ignition engine compatible to run on diesel or mixture of bio-diesel up to hundred per cent. Bio-diesel (B100) (hereinafter referred to as flex-fuel bio-diesel vehicle), shall be type approved as per prevailing diesel emission norms.

(2) The compatibility of vehicle to level of bio-diesel blend or B100 shall be specified by the vehicle manufacturer and the same shall be displayed on vehicle by putting a clearly visible sticker.

(3) Test requirements for the type approval and extension for different classes of vehicles are specified in Table 1, Table 2 and Table 3 below, respectively:-

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14c.Inserted by G.S.R. 412€, dated 11-4-2016 (w.e.f. 11-4-2016).

TABLE 1

TEST REQUIREMENTS FOR TYPE APPROVAL AND EXTENSION FOR FOUR WHEELED VEHICLES WITH GROSS VEHICLE WEIGHT LESS THAN OR EQUAL TO 3,500 KILOGRAMS

S. No	Test	Flex-fuel bio-diesel vehicle
1.	Gaseous pollutants (type I test)	On both diesel and B100 fuel
2.	Free acceleration smoke (type II Test)	On both diesel and B100 fuel
3.	Durability (Type V), if opted for instead of fixed Deterioration Factor (DF)	Only on diesel fuel
4.	On-board diagnostics (India OBD II)	On both diesel and B100 fuel

TABLE 2

TEST REQUIREMENTS FOR TYPE APPROVAL AND EXTENSION FOR THREE WHEELED VEHICLES.

S. No	Test	Flex-fuel bio-diesel vehicle
1.	Gaseous pollutants (Type I test)	On both diesel and B100 fuel
2.	Free acceleration smoke (Type II test)	On both diesel and B100 fuel
3.	Durability (Type V test), if opted for instead of fixed Deterioration Factor	Only on diesel fuel

TABLE 3

TEST REQUIREMENTS FOR TYPE APPROVAL AND EXTENSION FOR FOUR WHEELED VEHICLE WITH GROSS VEHICLE WEIGHT GREATER THAN 3,500 KG.

S. No	Test	Flex-fuel bio-diesel vehicle
1.	Gaseous pollutants	On both diesel and B100 vehicle

2.	Free acceleration smoke	On both diesel and B100 fuel
3.	Durability (Type V test), if opted for instead of fixed Deterioration Factor	Only on diesel fuel

TABLE 3

TEST REQUIREMENTS FOR TYPE APPROVAL AND EXTENSION FOR FOUR WHEELED VEHICLES WITH GROSS VEHICLE WEIGHT GREATER THAN 3,500 KG.

S. No	Test	Flex-fuel bio-diesel vehicle
1.	Gaseous pollutants	On both diesel and B100 fuel
2.	Free acceleration smoke	On both diesel and B100 fuel
3.	Durability, if opted for instead of fixed DF	Only on diesel fuel
4.	On-board diagnostics (OBD)	On both diesel and B100 fuel

Diesel vehicles which are declared as compatible to run on bio diesel up to 20 per cent. Blend shall be tested only with Reference Diesel Fuel for prevailing emission norms.

Notes. – (1) Mass emission tests shall be carried out as per MoRTH/CMVR/TAP-115/116 Issue 4 and its subsequent issues or amendments, as applicable, and suitable updation of the ratio or gas components densities to exhaust gas density, hydrogen-carbon-oxygen ratio and fuel consumption formula shall be done in type approval procedure.

(2) Vehicle manufacturer shall submit the vehicle to any of the test agencies specified in rule 126, for type approval.

(3) Bio-diesel vehicles with Gross Vehicle Weight less than or equal to 3.5 tonne shall be tested on chassis dynamometer using the prevailing diesel vehicle emission driving cycle and the B100 fuel vehicles with Gross Vehicle Weight greater than 3.5 tonne shall be tested on engine dynamometer using the prevailing diesel engine emission driving cycle.

(4) Bio-diesel vehicles shall be tested with reference fuel (as per IS 15607:2005) specified in Annexure IV-S to those rules.

(5) For Conformity of Production test applicability, refer to MoRTH/CMVR/TAP-115/116 Issue 4 and its subsequent issues or amendments, as applicable; and for fuel requirement for applicable tests, refer to above Table 1, Table 2 and Table 3.

(6) The Conformity of Production frequency and sampling shall be as per requirements given in MoRTH/CMVR/TAP-115/116 Issue 4 and its subsequent issues or amendments, as applicable, according to category of vehicle.

(7) Deterioration factors shall be as per prevailing emission norms, according to the vehicle categories.]

116.Test for smoke emission level and carbon monoxide level for motor vehicles.- [15][(1) Notwithstanding anything contained in sub-rule (7) of rule 115 any officer not below the rank of sub-Inspector of Police or the Inspector of Motor Vehicles who has reason to believe that a motor vehicle is not complying with the provision of sub-rule (2) or sub-rule (7) of rule 115, may, in writing, direct the driver or any person incharge of the vehicle to submit the vehicle for conducting the test to measure the standards of emission in any one of the authorized testing stations, and produce the certificate to an authority at the address mentioned in the written direction within 7 days from the date of conducting the check.

(2)The driver or any other person in charge of the vehicle shall upon such direction by the officer referred to in sub-rule (1) submit the vehicle for testing for compliance of the provisions of [16][sub-rule (2) and sub-rule (7) of rule 115], at any authorized testing station.

(3)The measurement for compliance of the provisions of 16[sub-rule (2) and sub-rule (7) of rule 115] shall be done with a meter of the type approved by any agency referred to in rule 126 of the principal rules or by the National Environmental Engineering Research Institute, Nagpur – 440 001:

[16][Provided that such a testing agency shall follow MoSRTH/CMVR/TAP-115/116 for approval of measuring metres;]

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15. Substituted by G.S.R. 338 (E), dated 26-3-1993 (w.e.f. 26-3-=1993).
16 Substituted by G.S.R. 276(E), dated 10-4-2007 (w.e.f. 10-4-2007).

(4)If the result of the tests indicate that the motor vehicle complies with the provisions of [16][sub-rule (2) and sub-rule (7) of rule 115], the driver or any person incharge of the vehicle shall produce the certificate to the authority specified in sub-rule (1) within the stipulated time-limit.

(5) If the test results indicate that the motor vehicle does not comply with the provisions of the [16][sub-rule (2) and sub-rule (7) of rule 115], the driver or any person incharge of the vehicle shall rectify the defects so as to comply with the provisions of the sub-rule (2) of rule 115 within a period of 7 days and submit the vehicle to any authorized testing stations to the authority referred to in sub-rule (1).

(5) If the certificate referred to in sub-rule (1) is not produced within the stipulated period of seven days or if the vehicle fails to comply with the provisions of [17][sub-rule (2) and sub-rule (7) of rule 115] within a period of seven days, the owner of the vehicle shall be liable for the penalty prescribed under sub-section (2) of section 190 of the Act.

(6) If the driver or any person incharge of the vehicle referred to in sub-rule (1) does not produce the said certificate within the said period of 7 days, such vehicle shall be deemed to have contravened the provisions of the sub-rule (2) of rule 115 and the checking officer shall report the matter to the registering authority.

(8)The registering authority shall on receipt of the report referred to in sub-rule (7),for reasons to be recorded in writing suspend the certificate of registration of the vehicle, until such time the certificate is produced before the registering authority to the effect that the vehicle complies with the provisions of ,[17a][sub-rule (2) and sub-rule (7) of rule 115].

(9)On such suspension of the certificate of registration of the vehicle, any permit granted in respect of the vehicle under Chapter V or under Chapter VI of the Motor Vehicles Act, 1988(59 of 1988) shall be deemed to have been suspended until a fresh "Pollution under control" certificate is obtained.]

Speed Governors

117.Speedometer.—(1)[18][Every motor vehicle (including construction equipment vehicle), other than an invalid carriage] or a vehicle, the designed speed of which does not exceed thirty kilometres per hour, shall be fitted with an instrument (hereinafter referred to as "speedometer") so constructed and fixed in such a position as to indicate to the driver of the vehicle the speed at which the vehicle is travelling:

[19][Provided that every agricultural tractor shall be fitted with an Engine RPM-cum-Hour Meter:]

[20][Provided further that the requirement of provision of speedometer is exempted for construction equipment vehicle in which the driver's cabin rotates about a vertical axis.] _____

17.Substituted by G.S.R.111(E), dated 10-2-2004, for "sub-rule (2) of rule 115"(w.e.f. 10-8-2004).
17a. Substituted by G.S>R. 111(E), dated 10-2-2204, for "sub-rule (2) of rule 115" (w.e.f.10-8-2004).
17. Substituted by G.S.R. 642(E), dated 28-7-2000, for "Every motor vehicle, other than an invalid carriage" (w.e.f. 29-7-2000).
18a. Substituted by G.S.R. 709(E), dated 8-10-2014 (w.e.f. 8-10-2014).
19.Inserted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
19a.Inserted by G.S.R. 212 (E), dated 20-3-2015 (w.e.f. 1-4-2015).
20.Inserted by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000).

[21][(2)On an expiry of one year and three months from the date *of* commencement of the Central Motor Vehicles (Amendment) Rules, 1999, every motor vehicle manufactured shall be fitted with a speedometer conforming to the requirements of IS:11827—1995 specified by Bureau of Indian Standards, as amended from time to time.

(3)On and after the commencement of the Central Motor Vehicles (Sixth Amendment) Rules, 2000, every construction equipment vehicle manufactured shall be fitted with a speedometer that shall conform to the requirements of IS: 11827 specified by the Bureau of Indian Standards concerning the speedometer.]

[22][(4) Every quadricycle manufactured on and after 1st October 2014, shall be fitted with a speedometer conforming to the requirements of Indian Standards : 11827-2008 specified by Bureau of Indian Standards.]

[23][118.Speed governor.—(1) Every transport vehicle notified by the Central Government under sub-section (4) of section 41 of the Motor Vehicle Act, 1988 (58 of 1988), save as provided herein, and manufactured on or after the 1st October, 2015 shall be equipped or fitted by the vehicle manufacturer, either in the manufacturing stage or at the dealership stage, with a speed governor (speed limiting device or speed limiting function) having maximum pre-set speed of 80 kilometre per hour conforming to the Standrad AIS 018/2001, as amended from time to time:

Provided further that the transport vehicles that are –
(i)Two wheelers;
(ii)three wheelers;
(iii)quadricycle;
(iv)four wheeled and used for carriage of passenger and their luggage, with seating capacity not exceeding eight passengers in addition to driver seat (MI Category) and not exceeding 3500 kilogram gross vehicle weight;
(v)fire tenders;
(vi)ambulances;
(vii)police vehicles;
(viii)verified and certified by a testing agency specified in rule 126 to have maximum rated speed of not more than 80 kilometre per hour, shall not be required to be equipped or fitted with speed governor (speed limiting device or speed limiting function):
Provided further that the transport vehicles manufactured on or after 1st October, 2015 that are dumpers, tankers, school buses, those carrying hazardous goods or any other category of vehicles, as may be specified by the Central Government by notification in the Official Gazette from time to time, shall be equipped or fitted by the vehicle manufacturer, either in the manufacturing stage or at the dealership stage, with a speed governor (speed limiting device or speed limiting function) having maximum speed of 60 kilometre per hour conforming to the Standards A1S 018/2001, as amended from time to time.

21.Substituted by G.S.R.291(E), dated 24-4-2014 (w.e.f. 24-4-2014).
22.Inserted by G.S.R. 99(E), dated 19-2-2014 (w.e.f. 1-10-2014).
23.Substituted by G.S.R. 290(E), dated 15-4-2015, for R.118 (w.e.f. 15-4-2015).

Provided that the categories of transport vehicles carrying hazardous goods and those transport vehicles that are dumpers, tankers or school buses, registered prior to the 1st October, 2915 and not already fitted with a speed governor (speed limiting device or speed limiting function) having maximum pre-set speed of 60 kilometre per hour or such other lower speed limit as may be specified by the State Government, conforming to the Standard AIS : 018/2001, as amended from time to time.

Reduction of noise

119.Horns.—(1) [24][On and after expiry of one year from the date of commencement of the Central Motor Vehicles (Amendment) Rules, 1999, [25][every motor vehicle, agricultural tractor, power tiller and construction equipment vehicle] manufactured shall be fitted with an electric horn or other devices conforming to the requirements of IS: 1884—1992, specified by the Bureau of Indian Standards] for use by the driver of the

Vehicle and capable of giving audible and sufficient warning of the approach or position of the vehicle:

[26][Provided that vehicles manufactured on and from 1st October, 2014, the horn installation requirements for motor vehicles shall be as per IS: 15796-2008, specified by the Bureau of Indian Standards, as amended from time to time:]

[27][Provided further that on and after 1st October 2014, the requirements under this rule shall be applicable to every quadricycle;]

[27a][Provided also that on and after the date of final publication of the Central Motor Vehicles (16th Amendment) Rules, 2014 the requirements under this rule shall be applicable to every E-rickshaw and E-cart:]

[28][(1-A) Every combine harvester shall be fitted with an electric horn or other devices confirming to the requirements of IS 1884: 1993 specified by the Bureau of Indian Standards for use by the driver of the vehicle and capable of giving audible and sufficient warning of the approach or position of the vehicle.

Provided that the horn installation requirements for combine harvester shall be as per IS 15796 : 2008 specification as amended from time to time.]

(2) No [29][motor vehicle including agricultural tractor] [28][and combine harvester] shall be fitted with any multi-toned horn giving a succession of different notes or with any other sound-producing device giving an unduly harsh, shrill, loud or alarming noise.

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24. Substituted by G.S.R.214(E), dated 18-3-1999 (w.e.f.18-3-1999).

25. Substituted by G.S.R.589(E), dated 16-9-2005, for certain words (w.e.f.16-9-2006).

26. Substituted by G.S.R.291(E), dated 24-4-2014 (w.e.f.24-4-2014).

27. Inserted by G.S.R.99(E), dated 19-2-2014(w.e.f. 1-10-2014).

27a. Inserted byG.S.R.709(E), dated 8-10-2014,(w.e.f.8-10-2014).

28. Inserted by G.S.R.212(E),dated 20-3-2015 (w.e.f.1-4-2015)

29. Substituted by G.S.R.111(E), dated 10-2-2004(w.e.f. 10-8-2004).

(3) Nothing contained in sub-rule (2) shall prevent the use on vehicles used as ambulance or for fire fighting or salvage purposes or on vehicles [30][used by police officers or operators of construction equipment vehicles or officers of the Motor Vehicles Department] [31][in the course of their duties or on construction equipment vehicles,] of such sound signals as may be approved by the registering authority in whose jurisdiction such vehicles are kept.

120. Silencers. – (1) [29][Every motor vehicle including agricultural tractor] [28][and combine harvester] shall be fitted with a device (hereinafter referred to as a silencer) which by means of an expansion chamber or otherwise reduces of exhaust gases from the engine.

[29][(2)Noise standards. – Every motor vehicle shall be constructed and maintained so as to conform to noise standards specified in Part E of the Schedule VI to the Environment (Protection) Rules, 1986, when tested as per IS:3028-1998, as amended from time to time.

[32][Provided that on and from the 1st day of April, 2006, where different noise levels are prescribed for vehicles, of such category, shall apply to Battery Operated Vehicles:]

[33][Provided further that in case of quadricycles, the permissible noise limits for b=vehicles in motion shall be 76 dB(A).]

[34][(3) In the case of agricultural tractor, the measurement test for driver perceived noise level and permissible sound level at bystander shall be carried out as per AIS -115 (Part 1) – 2209 and AIS-115 (Part 2)-2009 respectively, as amended from time to time till such time the corresponding Bureau of Indian Standards specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986) and shall conform to the levels as specified in the Table 1 and Table 2 below;

TABLE

Serial number	Agricultural Tractor	Date of Implementation	Driver-perceived noise level
(1)	AII	1st April, 2015	96dB(A)* 92dB(A)**

*As per Annexure I of AIS-115 (Part 1) – 2009

**As per Annexure II of AIS-115 (Part 1)- 2009

Note.- Agricultural Tractor manufacturers may opt for testing as per Annexure I or Annexure II.

TABLE 2

Serial number	Agricultural Tractor	Date of Implementation	Bystander's position
(1)	>1.5 TGVW	1st April, 2015	88 dB(A)
(2)	<1.5TGVW	1st April, 2015	85 dB(A)]

30. Substituted by G.S.R. 116(E), dated 27-2-2002(w.e.f. 27-8-2002).

31. Substituted by G.S.R. 642(E), dated 28-7-2000, for " in the course of their duties" (w.e.f. 28-7-2000).

32. Proviso added by G.S.R 589(E), dated 16-9-2005(w.e.f. 16-9-2005).

33. Inserted by G.S.R. 99(E), dated 19-2-2014 (w.e.f 1-10-2014).

34. Substituted by G.S.R. 291(E), dated 24-4-2014(w.e.f 24-4-2014).

[35][(4) In case of power tiller with a riding attachment or power tiller coupled to trailer, the noise level when tested as per IS:12180:2000, as amended from time to time, shall not exceed 88dB(A) at the bystander position and 98dB(A) at the operator's ear level.]

[35a][(5) In the case of combine harvester, the noise level at operator's ear level shall be measured as per Annex B of IS 12180 (Part-1) : 2000, whereas the noise level at bystander's position shall be measured as per IS 12180 (Part-2):2000:

Provided that the noise level shall not exceed 98 dB (A) at operator's ear level and 88 dB(A) at bystander's position

121.Painting of motor vehicles.—(l) [36][No motor vehicle including [37][agricultural tractor and construction equipment vehicle]] shall be painted in olive green colour except those belonging to the Defence Department

(2) No contract carriage other than a tourist vehicle covered by permit under sub-section (9) of section 88 shall be painted in the manner specified in sub-rule (11) of rule 128.

(3) No goods carriage other than a goods carriage covered by national permit shall be painted in the manner specified in sub-rule (1) of rule 90.

38[(4) The body of quadricycle shall prominently carry a label "Q" in capital and Arial font in black or any contrasting colour in front and at the rear of vehicle and that the said label shall have suitable dimensions so that total display area is not less than 225 sq.cm]

Chassis number and engine number

***39*[122.40Embossment of the chassis number and engine number or in the case of battery operated vehicles, motor number and month of manufacture**.—] [41](1)Every L, M and N categories of motor vehicles, manufactured on and after 1st day of April, 2009, shall bear the identification number including month and year of manufacture, embossed or etched or punched on it, in accordance with AIS 065:2005 till the corresponding BIS specifications are notified under the Bureau of Indian Standard Act, 1986 (63 of 1986):

Provided that every [42][N category vehicle, Goods Quadricycle, E-rickshaw and E-cart], manufactured on and after the 1st day of April, 2209 shall bear manufacturer's plate as prescribed in AIS 065:2005 till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986):]

[38][Provided further that on and after 1st October, 2014, the requirements under this rule shall be applicable to every quadricycle:]

[42a][Provided also that on and after date of final publication of the Central Motor Vehicles (16th Amendment) Rules, 2014, the requirements under this rule shall be applicable to every E-rickshaw and E-cart:

Provided also that the test agencies shall be authorized to provide a vehicle identification number, wherever registered association applies for approval for E-rickshaw.]

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35. Sub-R.(4) inserted by G.S.R. 589(E), dated 16-9-2005 (w.e.f 1-10-2006).

35a. Inserted by G.S.R 212(E), dated 20-3-2015 (w.e.f 1-4-2015)

36. Substituted by G.S.R. 642(E), dated 29-7-2000, for "No motor vehicle" (w.e.f. 28-7-2000).

37. Substituted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

38. Inserted by G.S.R. 99(E), dated 19-2-2014 (w.e.f. 1-10-2014).

39. R. 122 substituted by G.S.R. 338 (E), dated 26-3-1993).

40. Substituted by G.S.R.589(E), dated 16-9-2005, for the heading (w.e.f 1-4-2006).

41. Substituted by G.S.R.784(E), dated 12-11-2008 (w.e.f. 1-4-2009).

42. Substituted by G.S.R. 709 (E), dated 8-10-2014 (w.e.f. 8-10-2014).

42a. Inserted by G.S.R. 709(E), dated 8-10-2014 (w.e.f. 8-10-2014).

[43][(1-A) Every [43a][agricultural tractor, construction equipment vehicle, hydraulic modular trailer and combine harvester] shall bear the identification number including month and year of manufacture, embossed or etched or punched on it shall be in accordance with AIS 117-2011, as amended from time to time till the corresponding Bureau of Indian Standards specifications are notified under Bureau of Indian Standards Act, 1986 (63 of 1986):]

[43b][Provided further that on and from the 1st day of April, 2016, in case of the construction equipment vehicles the identification number including month and year of manufacture, embossed

or etched or punched on it shall be in accordance with AIS-136:2015, as amended from time to time, till the Bureau of Indian Stadards Act, 1986 (63 of 1986):]

[43c][(q-B) Every combine harvester and hydraulic modular trailer shall bear the identification number plate including the following information embossed or etched or punched on it:

(i)Name of manufacturer: .....

(ii)Model Name :

(iii)Chassis number:

(iv)Engine/Tractor make & model:

(v)Engine SI. No (in case of seld propelled combine):

(vi)Month & year of manufacture:

[44][(2) The vehicle manufacturer shall intimate to the certifying testing agency regarding the place where the number shall be embossed or etched or punched including code for the year and month of production in respect of each model and such testing agency shall include these details in the certificate of compliance granted by that agency under rule 126. No manufacturer shall change the place of embossing, etching or punching and the code for the month and year of production without prior intimation by registered post to the testing agency which granted the certificate of compliance to these rules:

[45][***]

[45a][(3) In case of E-rickshaw or E-cart, the registered E-rickshaw or E-cart Association or manufacturer producing E-rickshaw or E-cart shall intimate to the State Transport Authority regarding the place where the number shall be embossed or etched or punched including the code for the year and month of production for each model of E-rickshaw or E-cart.]

SAFETY DEVICES

Safety devices for drivers, passengers and road users

123. Safety devices in motorcycle — No motor cycle, [46][which has provision for pillion rider] shall be constructed without provision for a permanent hand grip on the side or behind the driver's seat and a foot rest and a protective device covering not less than half of the rear wheel so as to prevent the clothes of the person sitting on the pillion from being entangled in the wheel:

[47] [Provided that on and from 1st January, 2003, the pillion hand holds shall be governed by IS:14495-1998 specifications, as may be amended from time to time.]

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43. Substituted by G.S.R. 291(E), dated 24-4-2014 on and after 1-10-2014.
43a. Substituted by G.S.R. 212 (E), dated 20-3-2016 (w.e.f 1-4-2015).
43b. Inserted by G.S.R. 133(E), dated 29-1-2016 (w.e.f. 1-2-2016).
43c. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f 1-4-2015).
44.Substituted by G.S.R.by 221(E), dated 28-3-2001 (w.e.f. 28-3-2001).
45. Proviso omitted by G.S.R> 784(E), dated 12-11-2008 (w.e.f 1-4-2009).
45a. Inserted by G.S.R. 27(E), dated 13-1-2015 (w.e.f 13-1-2015).
46. Inserted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
47. Inserted by G.S.R. 400(E), dated 31-5-2002 (w.e.f. 31-5-2002).

[47a][Provided that on and after 1st October, 2016 a light weight container may be fitted on a motorcycle provided it meets the following requirements :

(i) the dimensions of the container shall not exceed 550 mm in length, 510 mm in width and 500 mm in height;

(ii)weight of the container including its mounting and the load carried in the container shall not exceed 30 kgs;

(iii)if such container is fitted on the pillion rider space, then no pillion rider shall be allowed:

Provided that the weight of container including its mounting and the load carried in the container, shall be within the permissible Gross Vehicle Weight in kg, specified by the vehicle manufacturer and also approved by the test agency referred to in rule 126;

[48][**124.Safety standards of components**.—[49][(1)The Central Government may, from time to time, specify, by notification in the Official Gazette, the standards or the relevant standards specified by the Bureau of Indian Standards of any part, component or assembly to be used in the manufacture of a vehicle including construction equipment vehicle and the date from which such parts, components or assemblies are to be used in the manufacture of such vehicle and on publication of such notification every manufacturer shall use only such of these parts, components or assemblies in manufacture of the vehicle:]

[50][Provided that any notification issued under this sub-rule before the commencement of the Central Motor Vehicles (6th Amendment) Rules, 2001, shall not be applicable after such commencement upto and including [51][26th August, 2002] in respect of any construction equipment.]

[52][(1-A) the general requirements of vehicle rear under run protecting device and the technical requirements of vehicle lateral protection side shall be as per IS:14812-2000 specifications and as per IS:14682-1999, respectively, as may be amended from time to time, for the motor vehicles of categories mentioned therein.]

[52a][(1-B) There shall not be any requirements regarding fitment of rear under run protection device and lateral protection device in modular hydraulic trailer.

(1-C) "T" signs, wherever used on modular hydraulic trailers, shall comply with IS: 9942 :1982.]

[53][(2) Every manufacturer shall get the prototype of the part, component or sub-assembly for which standards have been notified, approved from any agency as referred to in rule 126 or the Central Institute of Road Transport, Pune or in case of compliance with notified Indian Standards from any laboratory duly authorized by the Bureau of Indian Standards. On the basis of such approval, every manufacturer shall also certify compliance with the provisions of this rule in Form22.]]

47a. Inserted by G.S.R. 473(E), dated 2-5-2016 (w.e.f 2-5-2016).
48. R.124 substituted by G.S.R. 338(E), dated 26-3-1993(w.e.f. 26-3-1993).
49. Sub-R. (1) substituted by G.S.R. 116(E), dated 27-2-2002 (w.e.f 27-8-2002).
50. Inserted by G.S.R. 675(E), dated 17-9-2001 (w.e.f 17-9-2001).
51. Substituted by G.S.R. 242(E), dated 28-3-2002 for "31st March 2002" (w.e.f. 28-3-2002).
52. Substituted by G.S.R. 291(E), dated 24-4-2014 on and after 1-10-2014.
52a. Inserted by G.S.R.212(E), dated 20-3-2015 (w.e.f. 1-4-2015).
53. Substituted by G.S.R. 214(E), dated 18-3-1999(w.e.f. 18-3-1999).

[53a][(2-A) In case of E-rickshaw or E-cart, the registered E-rickshaw or E-cart Association or manufacturer producing E-rickshaw or E-cart shall get the prototype of the part, component or sub-assembly for which standards have been notified, approved from any agency as referred to in rule 126 or the Central Institute of Road Transport, Pune, or in case of compliance with notified Indian Standards from any laboratory duly authorised by the Bureau of Indian Standards, and on the basis of such approval, the E-rickshaw or E-cart association or manufacturer shall also certify compliance with the provisions of this rule in Form 22.]

[54] [(3)The Central Government may, by notification in the Official Gazette, frame a Scheme for marking to be affixed on any part or component or assembly to be used in the manufacture of the vehicle and specify the date from which such parts, components or assemblies are to be used in the manufacture of the vehicle.]

[55][(4) The procedure for type approval and establishing conformity of production for components, listed in table below, shall be in accordance with AIS:037-2004 till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).

TABLE

SI.no	Components	Reference Rule	Effective for vehicles manufactured on and from
1	2	3	4
1.	Safety Glass	Rule 100(2), (3) and (3-A)	1st April, 2009
2.	Brake hose	SI.No 2 of Table of S.O. 1365(E), dated 13-12-2004 and SI.No 3 of 124-A	1st April, 2009
3.	Horn	Rule 119(1)	1st April, 2009
4.	Tyre	Rule 95(1)	1st April, 2009
5.	CNG Regulator	SI.NO 3 of Annexure IX	1st April, 2009
6.	LPG vaporiser/regulator	SI.No. 3 of Annexure VIII	1st April, 2009
7.	Bulb	SI.No. 1 of Table of S.O 1365(E), dated 13-12-2004 and SI>NO1 of 124-A	1st October, 2009
8.	Rear view mirror	Rule 125(2)	1st October, 2009
9.	Speed limiting devices	Rule 118(1)	1st October, 2009
10.	Safety Belt	Rule 125(1-A)	1st October,2009

53a.Inserted by G.S.R.27(E), dated 13-1-2015 (w.e.f. 13-1-2015).
54. Inserted by G.S.R.221(E), dated 28-3-2001 (w.e.f.28-3-2001)
55.Inserted by G.S.R.784(E), dated 12-11-2008(w.e.f.12-11-2008).

1	2	3	4
11.	Wheel rims for M and N category	SI.No. 8 of Table of S.O. 1365(E), dated 13-12-2004	1st October, 2009
12.	Lighting and light signalling devices for M and N category	SI.No. 20 of Table of S.O. 1365(E), dated 13-12-2004	1st October, 2009
13.	Retro-reflectors for M and N category	Rule 104(4) and 104-A(vi)	1st October, 2009
14.	Warning triangle	Rule 138(4)(c)	1st October, 2009
15.	Lighting and light signalling	SI.No.32 of Table of S.O. 1365(E),devices for L category	1st April, 2010 dated 13-12-2004
16.	Retro-reflector for L category	Rule 104-A and Rule 104-A(vi)	1st April, 2010
17.	Retro-reflectors and signalling devices for Agricultural Tractors and Constructional Equipments vehicles.	Rule 104-A and Rule 104-B	1st April, 2010
18.	Lighting and signalling	SI.No 2 of Rule 124-A	1st April, 2010

	devices for Agricultural Tractors and Constructional Equipment Vehicles.		
19.	Door locks and Door retention components	SI.No. 16 of Table of S.O. 1365(E), dated 13-12-2004	1st April, 2010
20.	Fuel tanks	SI.No.7 and 25 of Table of S.O. 1365(E), dated 13-12-2004. SI.No.6 of Rule 124-A	1st April, 2010
21.	Reflective tapes	Rule 104(1)	1st April, 2010

Provided that the component manufacturers shall comply with the requirements six months prior to the date mentioned in column (4) above.]

[56][56a][124-A.Safety standards of components for agricultural tractors.—(1)The bulbs of the following lamps used on agricultural tractors [56b][and combine harvesters] shall conform to 56c[AIS: 034-2010], as amended from time to time.

(a) Head light main and dip;
(b) Parking light;
(c) Direction indicator lamp;
(d) Tail lamp
(e) Reversing lamp
(f) Stop lamp
(g) Rear Registration mark indicating lamp; and
(h) Top light

(2) The lighting and light signalling devices for agricultural tractor [56b][and combine harvesters] shall be in accordance with AIS:030, as amended from time to time, till such time the corresponding BIS standard is notified:

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56. Inserted byG.S.R.111(E), dated 10-2-2004 (w.e.f. 10-8-2004) and as corrected by vide G.S.R. 176€, dated 5-3-2004.

56a. Substituted by G.S.R. 212 (E), dated 20-3-2015 (w.e.f. 1-4-2015).

56b. Inserted by G.S.R.212 (E), dated 20-3-2015 (w.e.f. 1-4-2015)

Provided that the performance requirements of the lighting, light signalling and indicating systems of agricultural tractor [56b][and combine harvesters] manufactured on and from [57][1st October, 2005] shall be in accordance with safety standard AIS:062, as amended from time to time, till such time corresponding BIS standards are notified:

[57a][Provided further that the performance of rear warning triangle fitted on agricultural tractors 56b[and combine harvesters] manufactured on and after the 1st day of April, 2009, shall be in accordance with AIS:088-2005, except for clause 1.4.3 of Annexure 6 therein till such time corresponding BIS standards are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986):]

56b[Provided also that in case of combine harvesters, if the shape of body work makes it impossible to comply with the height requirement of Installation of the following lighting and light-signalling devices, it shall be allowed at a height not exceeding 3000 mm:

(i)Dipped-beam headlamp (Ref. clause 6.2.4.2)*
(ii)Front direction indicator lamp (ref. clause 6.5.4.2.3)*
(iii)Front position lamp (Ref. clause 6.9.4.2)*
(iv)Front parking lamp (Ref. clause 6.12.4.2)*

*Note. – Reference clause numbers of AIS-030:2001:

Provided also that the performance requirements of the lighting, light signalling and indicating systems of combine harvester shall be in accordance with safety standards AIS:062-2004, as amended from time to time, till such time as the corresponding Bureau of Indian Standards are notified:

Provided also that the performance of rear warning triangle fitted on combine harvester shall be accordance with AIS:088-2005, except clause 1.4.3 of Annexure 6 therein, as amended from time to time, till such time the corresponding Bureau of Indian Standards are notified.]

(3)The hydraulic brake hoses wherever used in agricultural tractors [57b][and combine harvester] and its trailer shall be in accordance with [57c][IS:7079-2008], as amended from time to time.

(4) The vegetable, no-mineral based hydraulic fluids wherever used in agricultural tractor [57b][and combine harvester] shall be in accordance with IS:8654-1986, as amended from time to time.

(5) The tow hook wherever used in agricultural tractor [57b][and combine harvester] shall be in accordance with IS:12362 (part 2), as amended from time to time.

[57c][(6) The fuel tank of agricultural tractor shall conform to AIS: 104-2008, as amended from time to time.

(7)The wheel nuts and hub cubs used in agricultural tractor [57b][and combine harvester] shall be in accordance with IS: 13942-1994, amended from time to time.]

[57d][(8) On and after the [57e][1st October, 2013] the ballast mass, wherever used in agricultural tractor, shall conform to AIS 105: 2008, as amended from time to time , till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).

56c.Substituted by G.S.R. 291(E), dated 24-4-2014 on and after 1-4-2015.

57. Substituted by G.S.R. 206(E), dated 1-4-2005, for "1st April, 2005" (w.e.f. 1-4-2005).

57a. Inserted by G.S.R. 784(E), dated 12-11-2008 (w.e.f. 12-11-2008).

57b. Inserted by G.S.R. 212(E), dated 20-3-2015(w.e.f. 1-4-2015).

57c. Substituted by G.S.R. 291(E), dated 24-4-2014, on and after 1-4-2015.

57d. Inserted by G.S.R. 625(E), dated 8-8-2012(w.e.f 8-8-2012).

57e. Substituted by G.S.R. by 644(E), dated 27-9-2013.

(9)On and after the [57e][1st October, 2013], the protective structures, wherever provided in agricultural tractor, shall conform to IS: 11821 (Part 1) -1992 or IS:11821 (Part 2)-1992, as the case may be.

(10)On and after the [57e][1st October, 2013], the load platform, wherever used in agricultural tractors, shall conform to AIS: 106-2009, amended from time to time, till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).

(11)On and after the [57e][1st October, 2013] the attendants' seat, wherever used in agricultural tractors, shall conform to AIS: 111-2009, as amended from time to time, till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).

(12)On and after the [57e][1st April, 2014], for agricultural tractors, the driver's field of vision shall conform to AIS: 107-2009, as amended from time to time, till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).]

[57f][(13) On and after 1st April, 2015, for agricultural tractors, the maximum design speed shall be in accordance with AIS-116-2009.]

[58]**[124-B.Safety Standards of components for power tillers**.—(1)The lamps and bulbs used on power tillers for—

(a) The head light main and dip;
(b) The parking light;
(c) The direction indicator lamp;
(d) The tail lamp;
(e) The reversing lamp;
(f) The stop lamp;
(g) The rear Registration mark illuminating lamp,

Shall be in accordance with AIS:034:2004 as amended from time to time till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986(63of 1986).

(2) The lighting and signalling devices shall be in accordance with AIS:062:2004 as amended from time to time, till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act,1986 (63of1986).
(3) The safety and comfort of the operator of a power tiller shall be in accordance with IST 2239 (Part3):1996, as amended from time to time.
(4) The gradeability of a power tiller coupled to a trailer under the declared combination weight by the manufacturer shall be in accordance with IS:9980:1988, as amended from time to time.]

59[125.Safety belt, collapsible steering column, auto dipper and padded dash boards.—
60[(1)] One year from the date of commencement of the Central Motor Vehicles (Amendment) Rules,1993, the manufacturer of every motor vehicle other than motor cycles and three-wheelers of engine capacity not exceeding 500cc, shall equip every such vehicle with a seat belt for the driver and for the person occupying the front seat.
61[(1-A) The manufacturer of every motor vehicle of M-l category shall equip every motor vehicle with a seat belt for a person occupying the front facing rear seat:

Provided that the specifications of Safety Belt Assemblies and Safety Belt Anchorages in motor vehicles shall conform to [61a][IS: 15140-2003 and IS:15139-2002 specifications, respectively]:

57f. Inserted by G.S.R. 291(E), dated 24-4-2014 (w.e.f. 24-4-2014).
Provided further that on and after 1st October, 2002, the specification of Safety Belt Assemblies and Safety Belt Anchorages in motor vehicles shall conform to AIS:005- 2000 and AIS:15139-2002 specifications, respectively.]

58. R. 124-B inserted by G.S.R. 589(E), dated 16-9-2005 (w.e.f 16-9-2006).
59. R. 125 substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).
60. R. 125 renumbered as sub-R (1) thereof by G.S.R. 720€, dated 10-9-2003 (w.e.f. 10-10-2003).
60a.The words, figures and letters "of engine capacity not exceeding 500cc" omitted by G.S.R. 276(E), dated 10-4-2007 (w.e.f 10-4-2007).
60b. Inserted by G.S.R. 99(E), dated 19-2-2014 (w.e.f 1-10-2014).
61. Sub-R. (1-A) substituted by G.S.R. 400(E), dated 31-5-2002 (w.e.f 31-5-2002).
61a. Substituted by G.S.R. 784(E), dated 12-11-2008(w.e.f 1-4-2009).

[62][(1-B) On and after the 1st day of October, 2009, the front under run protective n (sic) after 1st day of October, 2009 shall comply with the requirements specified in AIS: 069-2006, till the corresponding HIS specifications are dives fitted on N2 and N3 categories of motor vehicles, manufactured o (sic) notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).
(1-C) On and after the 1st day of April, 2009, the temporary cabin fitted on drive away chassis vehicles of Category M and N, manufactured on and after the 1st day of October, 2008 that are driven off from the factory premises for purposes of body building, shall comply with the requirements specified in AIS: 070-2004 till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).
(2) Six months from the date of commencement of the Central Motor Vehicles (Amendment) Rules1993 all motor vehicles shall be equipped with rear view mirror:
[63][Provided that 64[on and from 1st May, 2003], the rear view mirror specifications and installation requirements shall be as specified by AIS:001-2001 and AIS: 002-2001 respectively, as may be amended from time to time, till such time as corresponding Bureau of Indian Standards specifications are notified.]
[65][Provided further that on and after the 65b[1st October, 2013], the requirements under this rule shall be applicable to every quadricycle.]

[65a][Provided further that on and after the 65b[1st October, 2013], for agricultural tractors, the rear view mirror specifications and installation requirements shall conform to AIS: 001-2001 and AIS: 114-2009 respectively, as amended from time to time, till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).]

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66a[** *]

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62. Inserted by G.S.R. 784(E), dated 12-11-2008 (w.e.f. 12-11-2008).

63. Inserted by G.S.R 400(E), dated 31-5-2002 (w.e.f. 31-5-2002).

64. Substituted by G.S.R. 845(E), dated 27-12-2002, for "on and from 1st January, 2003" (w.e.f. 27-12-2002).

65. Inserted by G.S.R. 99(E), dated 19-2-2014 (w.e.f. 1-10-2014).

65a. Inserted by G.S.R. 625(E), dated 8-8-2012 (w.e.f. 8-8-2012).

65b. Substituted by G.S.R. 664(E), dated 27-9-2013.

66. Sub-R. (3) omitted by G.S.R. 29(E), dated 15-1-1998 (w.e.f. 15-1-1998).

66a. Sub-R. (4) omitted by G.S.R. 659(E), dated 12-9-2001(w.e.f. 12-9-2001).

66b. Substituted by G.S.R. 784(E), dated 12-11-2008 (w.e.f. 1-4-2009).

[63][(5)On and after 1st January,2003, the size and specifications on seats, their Anchorages and Head Restraints (excluding luggage retention)on M-l vehicle category shall conform to 66b[IS :15546-2005].

[67][(6)On and from the 1st day of October, 2007, the seats, their anchorages and their head restraints for M2, M3, N1, N2 and N3 category of vehicles, shall be in accordance with AIS:023:2005 as amended from time to time till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63of 1986).]

67a[(7) Motor vehicles of category M1 excluding transport vehicles and special purpose vehicles manufactured on and after 1st April, 2015, shall have a provision for installation of at least one category of child restraint system for all weight groups on at least one of the seating seating positions, as specified in AOS: 072-2009, as amended from time to time, till the corresponding bureau of Indian Standards Act, 1986 (63 of 1986):

Provided that the manufacturer or importer or dealer of the child restraint system shall provide the guidelines for fitment and use of such system to the buyer of such vehicles:

Provided further that for such vehicles, vehicle manufacturer or importer or dealer of the motor vehicle shall provide the guidelines for recommended position in the vehicle.]

[68][68a][125-A.Safety belt, etc., for construction equipment vehicles.—One year from the date of commencement of the Central Motor Vehicle (sixth Amendment) Rules, 2000, the manufacturer of every construction equipment vehicle other than an agriculture tractor shall equip every such vehicle with a seat belt for the driver and for the person occupying the front seat, and with a rear view mirror.]

[68b][Provided that every combine harvester fitted with a cabin, shall be equipped with a seat belt for the driver and with a rear view mirror.]

68c[125-B. Special requirements for transport vehicles that are driven on hills. — (1)On and from the 1st day of October, 2006, such four wheeled transport vehicles as may be notified by State Governments In the Official Gazette plying on such routes or areas in hilly

terrains shall be fitted with fog lamp, power steering, [69][defrosting] and demisting system and that the State Government would provide a lead time of six months for this purpose.

(2)Anti-Lock Braking System shall be introduced in all M-2 category buses including those plying on All india Tourist Permit on and from the 1st day of October, 2007 in hill areas.

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67. Inserted by G.S.R. 589(E), dated 16-9-2005 (w.e.f 16-9-2005).

67a. Substituted by G.S.R. 291(E), dated 24-4-2014 (w.e.f 24-4-2014).

68. Inserted by G.S.R. 642(E), dated 28-7-200 (w.e.f 28-7-2000).

68a. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

68b. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

69. Substituted by G.S.R. 625(E), dated 8-8-2012 (w.e.f. 8-8-2012).

125-C.Body building and approval.— [69a][(1) On and after the 1st day of October, 2014, the testing and approval for body building of new models of buses with seating capacity of 13 or more poassengers excluding driver shall be in accordance with AIS: 052 (Revision 1)- 2008, as amended from time to time, for vehicles mentioned therein, till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986):

Provided that the provisions of this rule shall be applicable to the existing models of buses with seating capacity 13 or more passengers excluding driver on and after the 1st day of April, 2015;]

(2) The testing and approval for the body building of school buses shall be in accordance with AIS: 063:2005 as amended from time to time for vehicles mentioned therein, till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63of.1986).]

69b[(3) With effect from such date as may be notified, the testing and approval for body building of goods vehicles of category N2 and N3 with respect to cabin, bodies, containers, tankers and details thereof shall be in accordance with AIS: 093-2008, as amended from time to time, for vehicles mentioned therein till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of a986).]

69c**[125- D. Approval of Category T.** –(1) On and from the 1st day of April, 2016, the procedure for type approval and certification for Category T vehicles used for transportation of goods shall be in accordance with AIS: 113-2013- code of Practice for Type Approval of Category T, Trailers or Semi-trailers towed by Motor Vehicles of Category N2 and N3, as amended from time to time, till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).

(2) On and from the 1st day of April, 2016, the following vehicles shall conform to IS: 8007-2004 or AIS: 091 (Part-1) as amended from time to time, for all purposes of inter-changeability within the permissible Gross Combination Weight of the towing vehicle and the trailer or semi-trailer, namely:-

(a) Vehicles of Category N2 and Category N3 which are authorised to tow Category T;

(b) Category T vehicles which are authorised to be towed by vehicles of Category N2 and Category N3.

(3) On and from the 1st day of April, 2016, the close-coupling devices, wherever used in truck-trailer a tractor-trailer combinations covered under the scope of AIS-113 shall conform to AIS-092-2009, as amended from time to time, till the corresponding BIS specifications are notified under the Bureau of Indian Standards Act, 1986 (63 of 1986).]

[69d]**[125-e. Special requirements of motor vehicles transporting livestock. –**

(1) On and after, the 1st January, 2016, motor vehicles used for transportation of livestock by road shall be in accordance with the specifications of the Bureau of Indian Standards as provided in IS- 14904: 2007; or IS-5238:2001; or IS-5236:1982, as the case may be, as amended from time to time and the transporter or consigner of the livestock shall follow the code of practise laid down in the respective specification regarding the transport of the livestock.

69a. Substituted by G.S.R. 287(E), dated 22-4-2014 (w.e.f 22-4-2014).

69b. Inserted by G.S.R. 625(E), dated 8-8-2012 (w.e.f. 8-8-2012).

69c. Inserted by G.S.R. 409(E), dated 8-6-2014 (w.e.f. 8-6-2014).

69d. Inserted by G.S.R. 546(E), dated 8-7-2015(w.e.f. 1-1-2016).

(2) Subject to sub-rule (1), the motor vehicles for carrying animals shall have permanent partitions in the body of the vehicle so that the animals are carried individually in each partition where the size of the partition shall not be less than the following namely:-

(i)Cows and buffalos = 2 sq.mts.

(ii)Horses and mares = 2.25 sq.mts
(iii)Sheep and goat = 0.3 sq.mts.
(iv)Pig = 0.6 sq.mts; and
(v)Poultry = 40 cm sq.

(3) No motor vehicles meant for carrying animals shall be permitted to carry any other goods.

(4) The Regional Transport Officer shall issue special licences for the motor vehicles meant for carrying animals on the basis of vehicles modified in accordance with the provisions of sub-rule (2).]

70**[126.Prototype of every motor vehicle to be subject to test**.—On and from the date of commencement of Central Motor Vehicles (Amendment) Rules, 1993, every [71]manufacturer or importer] of motor vehicles other than trailers and semi-trailers shall submit the prototype of the vehicle [71a][including trailers, semi-trailers and modular hydraulic trailer] [71b][including registered association (identified by the concerned State Transport department) for E-rickshaw, wherever applicable] shall submit the prototype of the vehicle [71][to be manufactured or importer by him] for test by the Vehicle Research and Development Established of the Ministry of Defence of the Government of India or Automotive Research Association of India, Pune, [72][or the Central Farm Machinery Testing and Training Institute, Budni (MP), or the Indian Institute of Petroleum, Dehradun, [73][or the Central Institute of Road Transport" Pune or the International Centre for Automotive Technology, Manesar], [74][or the Northern Region Farm Machinery Training and Testing Institute, Hissar (for testing of combine harvester)] and such other agencies as may be specified by the Central Government for granting a certificate by that agency as to the compliance of provisions of the Act and these rules:]

[75][Provided further that the procedure for type approval of certification of motor vehicles for compliance to these rules shall be in accordance with the AIS: 0117-2000, as amended from time to time.

[76][Provided that in that in respect to the vehicles imported into India as completely built units (CBU), the importer shall submit a vehicle of that particular model and type to the testing agencies for granting a certificate by that agency as to the compliance to the provisions of the Act and these rules.]

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70. R. 126 substituted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).

71. Substituted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).

71a. Substituted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

71b.Inserted by G.S.R. 709(E), dated 8-10-2014 (w.e.f 8-10-2014).

72. Substituted by G.S.R. 276(E), dated 10-4-2007 (w.e.f 10-4-2007).

73. Added by G.S.R. 276(E), dated 10-4-2007 (w.e.f. 10-4-2007).

74. Inserted by G.S.R. 84(E), dated 9-2-2009 (w.e.f. 9-2-2009).

75. Inserted by G.S.R. 642(E), dated 28-7-2000(w.e.f. 28-7-2000).

76. Inserted by G.S.R. 111(E), dated 10-2-2004 (w.e.f. 10-8-2004).

[77]**[126-A.** The testing agencies referred to in rule 126 shall, in accordance with the procedures laid down by the Central Government, also conduct tests on vehicles drawn from the production line of the manufacturer to verify whether these vehicles conform to the provisions of [78][rules made under section 110 of the Act:]]

79[Provided that in case the number of vehicles sold in India for a given base model and its variants (manufactured in India or imported to India) are less than 250 in any consecutive period of six months in a year, then such base model and its variants need not be subjected to the above test, if at least one model or its variants manufactured or imported by that manufacturer or importer, as the case may be, is subjected to such tests at least once in a year:

Provided further that, in case the number of base models and its variants manufactured/imported is more than one and if the individual base model and its variants are less than 250 in any consecutive period of six months in a year, then the testing agencies can pick up one of the vehicles out of such models and their variants once in a year for carrying out such test.]

75[79a[126B.Prototype of every construction equipment vehicle to be subject to test.—(1) On and from the date of commencement of the Central Motor Vehicles (Sixth Amendment) Rules, 2000, every manufacturer of construction equipment vehicle shall submit the prototype of the construction equipment vehicle to be manufactured by him for test by any of the agencies referred to in rule 126 for granting a certificate by that agency as to the compliance of provisions of the Act and these rules.

79b[(1-A) On and from the date of commencement of Central Motor Vehicle (Fourth Amendment) Rules, 2015, every manufacturer of combine harvester shall submit the prototype of the combine harvester to be manufactured by him that agency as to the compliance of the provisions of the Act and these rules.]

(2)The testing agencies referred to in rule 126 shall in accordance with the procedure laid down by the Central Government conduct tests on vehicles drawn from the production line of the manufacturer to verify whether the vehicles conform to the provisions of the Act, or rules or orders issued thereunder shall be renumbered as sub- rule (1) there of and after sub-rule (1)as so, renumbered:]

[80][Provided that the provisions of this sub-rule shall not be applicable in respect of any construction equipment up to and including [81][26th August, 2002.]

[79b][(2-A) The testing agencies referred to in rule 126 shall, in accordance with the procedure laid down by the Central Government, conduct tests on combine harvesters drawn from the production line of the manufacturer to verify whether the combine harvesters conform to the provisions of the Act, or rules, or orders issued there under:

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77. Inserted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).

78. Substituted by G.S.R. 221(E), dated 28-3-2001. For "rule 115" (w.e.f 28-3-2001).

79. Inserted by G.S.R. 400(E), dated 31-5-2002 (w.e.f. 31-5-2002).

79a. substituted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015).

79b. Inserted by G.S.R. 212(E), dated 20-3-2015 (w.e.f. 1-4-2015). 1st day of April, 1991 videS.O 941(E), dated 11th December, 1990.

80. Inserted by G.S.R. 675(E), dated 17-9-2001 (w.e.f. 17-9-2001).

81. Substituted by G.S.R. 242(E), dated 28-3-2002, for "31st March, 2002" (w.e.f 28-3-2002).

[81a][**126.C.** On and from the date of final publication of this notification, the testing agencies specified in rule 126, in accordance with the procedure laid down by the Central Government, upload information regarding vehicle type approval on the portal https://www.vahan.nic.in/markermodel/:

Provided that the test agencies shall also enter the legacy data of type approvals for the period from the 1st January, 2013 till the.]

127.Quality certificate by manufacturer.— [82][(1)] On and from the date * of commencement of this rule, the sale of every motor vehicle manufactured shall be accompanied by a certificate of road-worthiness issued by the manufacturer in Form22.

[82a][(2)On and from the date of commencement of the Central Motor Vehicles (Sixth Amendment) Rules, 2000, the sale of every construction equipment vehicle manufactured shall be accompanied by a certificate of road-worthiness issued by the manufacturer in Form22.]

Special provisions

128. Tourist vehicles other than motor cabs, etc.—A tourist vehicle other than motor cab, taxicab, campers van house trailer, shall conform to the following specifications, namely:—

[84][(1)The dimension shall conform to the dimensions specified in rule 93.]

(2)Structure.—Structure of the tourist vehicle should be sturdy and strong structural frame work using suitable material of adequate sectional area and anaerodynamical shape. For exterior panelling, aluminium sheet or good quality panelling material should be used. As regards interior panelling it should cover the entire interior roof, sides, back and bulk head portions. The body should be made completely leak proof and dustproof. The vehicle should also be rattle proof. Sound deadening should also be done for all panelling including the floor.

[85][(3)*Passenger entrance and exit.*— The passenger entrance-cum-exit door shall be located on the left side of the vehicle and minimum door width shall be 685 millimetres. The door handle should be capable of being handled from inside as well as from outside. The door may be operated pneumatically or hydraulically or electrically with suitable locking devices.]

[86][(4)*Emergency exit.*—The emergency exit provided on the tourist vehicle shall meet the following requirements, namely:—

(i)be clearly marked "EMERGENCY EXIT" in bold letters on the inside and the outside of the tourist vehicle;

(ii)be so designed as to open from inside and the outside of the tourist vehicle.

(iii)be equipped with a fastening device which can be quickly released but so designed as to offer protection against accidental release;

(iv)be easily accessible to persons of normal height standing on the ground outside the vehicle;

v)be easily accessible to the passengers;

(vi)be such that no seat or other object placed in the vehicle shall restrict the passage to the emergency door;

81a. Inserted by G.S.R. 810(E), dated 17-11-2014(w.e.f. 17-11-2014).

82. R. 127 renumbered as sub-R. (1) thereof by G.S.R. 642(E), dated 28-7-2000 (w.e.f. 28-7-2000)

82a. Inserted by G.S.R. 27(E), dated 13-1-2015(w.e.f. 13-1-2015).

83. Inserted by G.S.R. 642(E), dated 28-7-2000(w.e.f. 28-7-2000).

84. Substituted by G.S.R. 933(E), dated 28-10-1989(w.e.f. 28-10-1989).

85. Sub-R. (3) substituted by G.S.R. 338(E), dated 26-3-1993(w.e.f. 26-3-1993).

86. Sub-R. (4) substituted by G.S.R.589(E), dated 16-9-2005 (w.e.f 16-9-2006).

(vii)be located either at the back or on to the right hand side of the vehicle;and

(viii) emergency exist may be provided in the form of a window with breakable glass. In such cases, a suitable device shall be provide data convenient place to break open the glass in the event of an emergency.]

(5) Driver entry and exit.—A separate door with suitable sliding window shall be provided for the driver near the driver seat.

(6)Windscreen.—(i) The front windscreen shall be of clear view and distortion free, with safety glass and shall be of full width of the tourist vehicle. If made in two halves, the width of the centre vertical joint, inclusive of the rubber glazing fitment of the front wind shield shall be such as to enhance the elegance of the tourist vehicle.

(ii) Rear windscreen shall be of safety glass or laminated safety glass. It shall match with the windows provided on the vehicle. Sliding curtains shall be provided on the rear windscreen.

(7) Windows.—Windows of tourist vehicles should have a minimum space of 14.25 millimetres and shall be of safety or laminated safety glass.

Windows shall be of double sliding type slider running smoothly in channels without rattle. All safety or laminated safety glasses used for windows should conform to standards laid down by the Bureau of Indian Standards. Windows shall be provided with sliding curtains.

(8)Ventilation.—Adequate arrangements shall be provided for ventilation for the passenger compartment as well as the driver compartment. All ventilators and windows shall be such that when closed they will not permit ingress of rain water or dust in the passenger or driver compartment.

(9)Luggage.—(i)Luggage holds shall be provided at the rear or at the sides, or both, of the tourist vehicle with sufficient space and size, and shall be rattle proof, dust proof and water proof with safety arrangements;

*(ii)*The light luggage racks, on strong brackets shall be provided inside the passenger compartment running along the sides of the tourist vehicle. Except where nylon netting is used, the underside of the rack shall have padded upholstery to protect the passengers from an accidental hit. The general design and fitment of the rack shall be so designed as to avoid sharp corners and edges.

(10)Seats and seating arrangements.—[87][** *]

(ii)Seating layout shall be [88][two and two or one and two or one and one] on either side, all seats facing forward, with a clear gang way of at least 355

Millimetres width at the centre. Each passenger seat shall have a minimum area of 447 millimetres x457 millimetres and an arm rest on both sides and seat back of full height.

(iii)The seat frames shall be sturdy, properly finished and so mounted as to transfer the weight directly to the structural members of frame-work. The seats shall be of reclining type and adjustable.

(iv)The seats shall be so mounted as to provide at least 280 millimetres leg room from the front of the rear seat to the back of the fronts eat. A foot rest at suitable location and height shall be provided for every passenger.

(11)Painting and finishing.—The tourist vehicle shall be painted in a manner referred to in sub-rules (7) and (8) of rule 85- A in white colour with a blue ribbon of five centimetres width at the centre of the exterior of the body.

*(12)Lighting.—(i)(a)*The passenger compartment shall be adequately illuminated.

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87. Sub-C1. (i)omitted by G.S.R. 933(E), dated 28-10-1989 (w.e.f. 28-10-1989).

88. Substituted by G.S.R. 933(E), dated 28-10-1989, for "two and two" (w.e.f. 28-10-1989).

(b)Arrangement shall be provided to eliminate reflection of the light from the passenger compartment on the windscreen.

(c)In addition to the lights in passenger compartment, at least two night-lights with coloured domes, shall be provided in the passenger compartment.

(ii)Front and rear destination boxes, if provided, shall be illuminated.

(iii) One independently operated light fitting shall be provided for illumination of the driver's or attendant's seat area.

(iv) A light fitting shall be provided for illuminating the steps at the passenger entrance door.

*(v)*Each luggage hold shall have a light fitting for illumination of that hold.

*(vi)*Wiring in the passenger compartment shall be with low tension cable conforming to IS: 2465 of size commensurate with the estimated current loading. The wires shall be carried in PVC sleevings or conduit or casing of adequate size. When any wire passes through a hold in a panel or sheet metallic components, a rubber grommet of adequate size shall be provided for protection of the insulation.

Fittings and accessories.— A tourist vehicle shall be equipped with the following,namely:—

*(i)*Convex rear view mirrors one on each side, universally adjustable and of adequate dimensions.

(ii)First-aid box with glazed front, with necessary medicines for first-aid.

(iii)Fire extinguisher, dry powder type located near the engine compartment.

(iv)Insulation on interior or exterior of the engine bonnet for reducing the noise and heat from the engine.

(v)Provision for locating vehicle tools securely.

(vi)Heavy duty wind screen wiper system.

(vii)Adjustable sun visors of adequate size for the driver and for the attendant.

(viii)Electrically operated wide indicators or blinkers, stop lights and parking lights.

(ix)Dual head lamps.

(x)Suitable illumination for the registration number plate at the rear.

(xi)Horn.

(xii)Electric fans, of 8 inches* sweep adjustable, at least eight in number, suitably spaced in the passenger compartment and controlled by switches located near the seat.

(xiii)Electric bell or buzzer located near the seat of driver or attendant and operated by at least four push button controls placed at suitable location in the passenger compartment.

(xiv)Ash trays near passenger seats of a design convenient for cleaning the mat Intermediate stops of the tourist vehicle.

(xv)Drinking water and ice-box.

(xvi)Rack for magazines and other reading material.

(xvii)Back pockets and numbers for each seat.

(xviii)Public address system with at least four speakers suitably located in the passenger compartment.

(xix)Document frame, located near the seat of driver, for carrying vehicle documents,Tax token, licence and permit.

(xx)Mud flaps for front and rear wheels:

[89][Provided that the provisions of clauses (2) and (7), sub-clause *(iv)* of clause (12), sub-clauses *(ix), (xii)* and *(xiii)* of clause (13), of this rule shall not apply to the vehicles of integral construction.]

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89. Added by G.S.R. 933(E), dated 28-10-1989(w.e.f. 28-10-1989).

[90]**[128-A.Special provision for M3 category of vehicles**.—The provisions of sub-rule (4)of rule 128 shall apply to all M3 category of vehicles.]

129.Transportation of goods of dangerous or hazardous nature to human life.—(1) Every owner of a goods carriage transporting any dangerous or hazardous goods shall, in addition to complying with the provisions of any law for the time being in force in relation to any category of dangerous or hazardous goods, comply with the following conditions, namely:—

(i)every such goods carriage, carrying the same type of dangerous or hazardous goods (whether in bulk or in packages), shall display a distinct mark of the class label appropriate to the type of dangerous or hazardous goods specified in column 3 of the Table I to rule 137;

*203 millimetres.

(ii) every package containing dangerous or hazardous goods shall display the distinct class labels appropriate to the type of dangerous or hazardous goods specified in column 3 of the Table I to rule 137;

*(iii)*in the case of packages containing goods listed in Table III in rule 137 and which Represents two hazards as given in column 2 there of, such packages shall display distinct labels to indicate both the hazards;

[91][(iv) every goods carriage carrying any dangerous or hazardous goods shall be Equipped with safety equipments for preventing fire, explosion or escape of hazardous or dangerous goods.]

[92][(2) One year from the date of commencement of Central Motor Vehicles (Amendment) Rules, 1993, every goods carriage carrying goods of dangerous or hazardous nature to human life, shall be fitted with techograph (an instrument to record the lapse of running time of the motor vehicle; time speed maintained, acceleration, deceleration,etc.)conforming to the specifications of the Bureau of Indian Standards.]

371[129-A.Spark arrester.—Six months from the date of commencement of Central Motor Vehicles (Amendment) Rules, 1993, every goods carriage carrying goods of dangerous or hazardous nature to human life shall be fitted with a spark arrester.]

130. Manner of display of class labels.—(1) Where a class label is required to be displayed on a vehicle, it shall be so positioned that the size of the class label is at an angle of 45 degrees to the vertical and the size of such label shall not be of less than twenty-five millimetres square which may be divided into two portions, the upper half portion being reserved for the pictorial symbol and the lower half for the text:

Provided that in the case of smaller packages a suitable size of the label may be adopted.

(2)Where the class label consists of adhesive material, it shall be water proof and where it consists of metal or other substance on which the pictorial symbol and the text are printed, painted or affixed, they shall be affixed directly on such material and in every case, the surface of the vehicle surrounding the label shall be of a colour that contrasts vividly with the background of the class label.

(3)Every class label displayed on a vehicle shall be positioned in such a manner that it does not obscure other markings required to be displayed under any other law.

(4)Every goods carriage carrying any dangerous or hazardous goods shall display the class label on the places shown in the Table in rule 134.

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91. Added by G.S.R. 338(E), dated 26-3-1993(w.e.f. 26-3-1993).

92. Inserted by G.S.R. 338(E), dated 26-3-1993 (w.e.f. 26-3-1993).

[93][131.Responsibility of the consignor for safe transport of dangerous or hazardous goods.—

(1)It shall be the responsibility of the consignor intending to transport any dangerous or hazardous goods listed in Table III, to ensure the following, namely:—

(a) The goods carriage has a valid registration to carry the said goods;

(b) The vehicle is equipped with necessary first-aid, safety equipment and antidotes as may be necessary to contain any accident;

(c) That the transporter or the owner of the goods carriage has full and adequate information about the dangerous or hazardous goods being transported; and

(d) That the driver of the goods carriage is trained in handling the dangers posed during transport of such goods.

(2)Every consignor shall supply to the owner of the goods carriage, full and adequate information about the dangerous or hazardous goods being transported as to enable such owner and its driver to,—

- Comply with the requirements of rules 129 to 137 (both inclusive) of these rules; and
- Be aware of the risks created by such goods to health or safety of any person.

(3) It shall be the duty of the consignor to ensure that the information is accurate and sufficient for the purpose of complying with the provisions of rules 129 to 137 (both inclusive) of these rules.]

[94][**132. Responsibility of the transporter or owner of goods carriage**.—(1)It Shall be the responsibility of the owner of the goods carriage transporting any dangerous or hazardous goods to ensure the following, namely:—

(a)that the goods carriage has a valid registration to carry the said goods and the said carriage is safe for the transport of the said goods; and

*(b)*the vehicle is equipped with necessary first-aid, safety equipment, toolbox and Antidotes as may be necessary to contain any accident.

(2) Every owner of a goods carriage shall, before undertaking the transportation of dangerous or hazardous goods in his goods carriage, satisfy himself that the information given by the consignor is full and accurate in all respects and correspond to the classification of such goods specified in rule 137.

(3)The owner of a goods carriage shall ensure that the driver of such carriage is given all the relevant information in writing as given in Annexure V of these rules in relation to the dangerous or hazardous goods entrusted to him for transport and satisfy himself that such driver has sufficient understanding of the nature of such goods and the nature of the risks involved in the transport of such goods and is capable of taking appropriate action in case of an emergency.

(4) The owner of the goods carriage carrying dangerous or hazardous goods, and the consignor of such goods shall lay down the route for each trip which the driver shall be bound to take unless directed or permitted otherwise by the Police Authorities. They shall also fix a time table for each trip to the destination and back with reference to the route so laid down.

(5) It shall be the duty of the owner to ensure that the driver of the goods carriage carrying dangerous or hazardous goods holds a driving licence as per provisions of rule 9 of these rules.

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93. R. substituted by G.S.R. 338(E), dated 26-3-1993(w.e.f. 26-3-1993).

94R.132 substituted by G.S.R.338(E), dated 26-3-1993 (w.e.f.26-3-1993).

(6) Notwithstanding anything contained in rules 131 and 132, it shall be sufficient compliance of the provisions of these rules if the consignor transporting dangerous or hazardous goods and the owner of the goods carriage or the transporter, abides by these conditions within six months after the date of coming into force of the Central Motor Vehicles(Amendment) Rules,1993.]

95[133. Responsibility of the driver.—(1) The driver of a goods carriage transporting Dangerous or hazardous goods shall ensure that the information given to him in writing under sub-rule (3) of rule 132 is kept in the driver's cabin and is available at all time while the dangerous or hazardous goods to which it relates, are being transported.

(2) Every driver of a goods carriage transporting any dangerous or hazardous goods shall observe at all times all the directions necessary for preventing fire, explosion or escape of dangerous or hazardous goods carried by him while the goods carriage is in motion, and when it is not being driven he shall ensure that the goods carriage is parked in a place which is safe from fire, explosion and any other risk, and at all times the vehicle remains under the control and supervision of the driver or some other competent person above the age of 18 years.]

134. Emergency information panel.—(1) Every goods carriage used for transporting any dangerous or hazardous goods shall be legibly and conspicuously marked with an emergency information panel in each of the three places indicated in the Table below so that the emergency information panel faces to each side of the carriage and to its rear and such panel shall contain the following information, namely:—

(i) the correct technical name of the dangerous or hazardous goods in letters not less than 50 millimetres high;

(ii) the United Nations class number for the dangerous or hazardous goods as given in Column 1, Table 1 appended with rule 137, in numerals not less than100 millimetres high;

(ii) The class label of the dangerous or hazardous goods of the size of not less than 250 millimetres square;

(iii) The name and telephone number of the emergency services to be contacted in the

Event of fire or any other accident in letters and numerals that are not less than 50 millimetres high and the name and telephone number of the consign or of the dangerous or hazardous goods or of some other person from whom expert information and advice can be obtained concerning the measures that should be taken in the event of an emergency in volving such goods.

[96][(2) The information contained in sub-rule (1) shall also be displayed on the vehicle by Means of a sticker relating to the particular dangerous or hazardous goods carried in that particular trip.]

[97][(3)] Every class label and emergency information panel shall be marked on the goods Carriage and shall be kept free and clean from obstructions at all times.

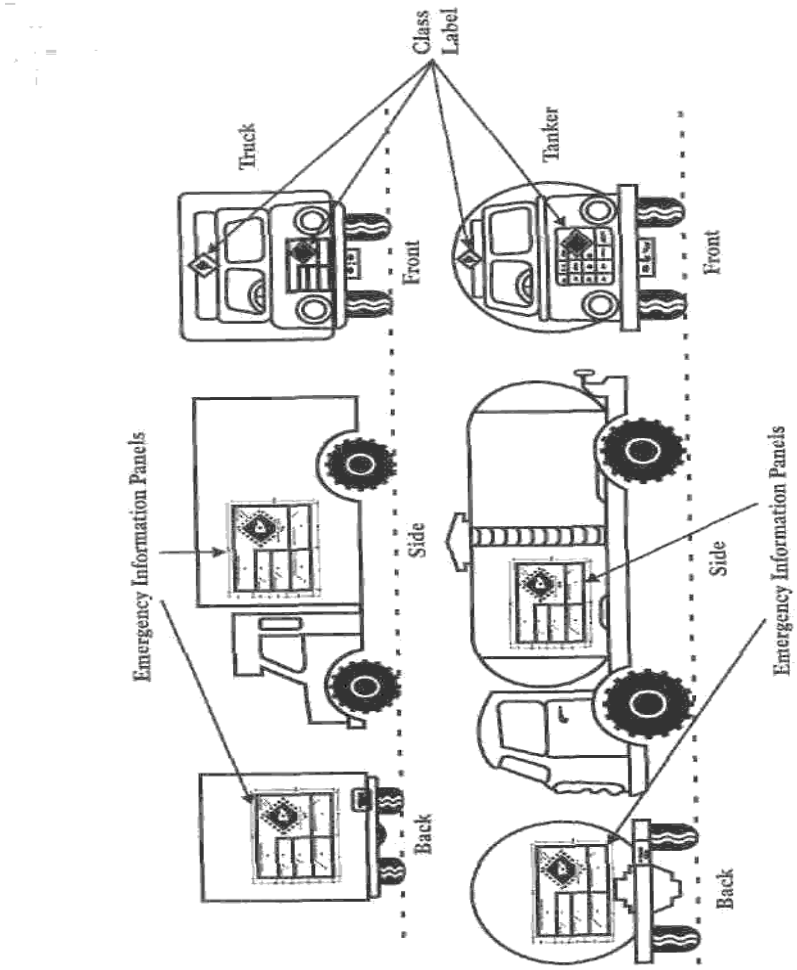
95.R. 133 substituted by G.S.R. 338(E), dated 26-3-1993).

96. Inserted by G.S.R. 338(E), dated 26-3-1993(w.e.f. 26-3-1993)

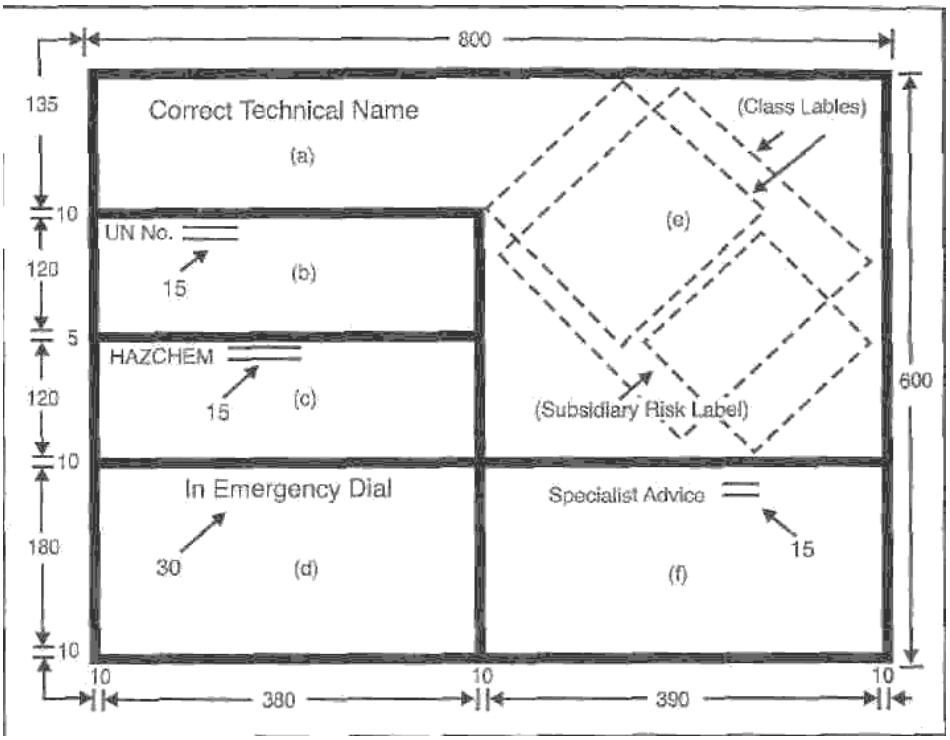
97. Sub-R. (2) renumbered as sub-R. (3) by G.S.R.338(E), dated 26-3-1993 (w.e.f.26-3-1993).

TABLE

PLACES FOR FIXING EMERGENCY INFORMATION PANELS ON VEHICLES AND DIMENSIONS



375 Inserted by G.S.R.338(E),dated26-3-1993(w.e.f.26-3-1993).
376 Sub-R.(2)renumberedassub-R(3)byG.S.R.338(E),dated26-3-1993(w.e.f.26-3-1993).



(Alldimensionsareexpressedinmillimetres)

(All dimensions are expressed in millimetres)

135.Driver to be instructed. —The owner of every goods carriage transporting dangerous or hazardous goods shall ensure to the satisfaction of the consign or that the driver of the goods carriage has received adequate instructions and training to enable him to understand the nature of the goods being transported, by him, the nature of the risks arising out of such goods, precautions he should take while the goods carriage is in motion or stationary and the action he has to take in case of any emergency.

[98][**136.Driver to report to the police station about accident.** —The driver of a goods carriage transporting any dangerous **or** hazardous goods shall, on the occurrence of an accident involving any dangerous or hazardous goods transported by this carriage, report forthwith to the nearest police station and also inform the owner of the goods carriage or the transporter regarding the accident.]

137.Class labels. —In respect of the dangerous or hazardous goods specified in column (2) of the Table below, the labels specified in the corresponding entry in column (3) shall be the class labels, namely:—

TABLEI

Class of Labels

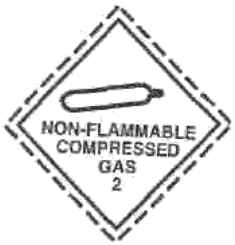
UN Class	**Classification** of **goods**	Class label No.
(1)	(2)	(3)

1. Explosives

Symbol(exploding bomb) :Black
Background :Orange

2. Gases, compressed, liquefied, dissolved under pressure or deeply refrigerated.

2.1Non-flammable gases



Symbol(gas cylinder) **:Black or White Background** **:Green**

- **Inflammable gases**

Symbol(Flame) **:BlackorWhite**
Background **:Red**

- **Poison(toxic)gases**

Symbol(skull and cross bones) :Black Background :White

- **Inflammable Liquids**

Symbol(flame) :Black or White Background: Red

- **Inflammable solids, substances liable to spontaneous combustion; substances which, on contact with water, emit inflammable gases.**

4.1 Inflammable solids

- **Inflammable solids, substances liable to spontaneous combustion; substance which, on contact With water, emit inflammable gases.**
- **Inflammable solids**

- **Substances liable to spontaneous combustion**

Symbol(flame) **:Black**
Background :Upper half white

- **Substances which, on contact with water, emit inflammable gases**

Symbol(flame) :Black or White
Background : Blue

- **Oxidizing substances and organic per oxides.**

- **Oxidizing substances**

Symbol(flame over circle) :Black Background :Yellow

5.2Organicperoxides

Symbol (flame over circle) : Black
Background : Yellow

- Poisonous(toxic)substances and infectious substances.
- Poisonous(toxic)substances

Symbol (skull and crossbones) : Black
Background : White

- Harmful substances

The bottom half of the label should bear the inscription: Harmful: Stow away from foodstuffs
Symbol (St. Andrew's cross over an ear of wheat):
Background : White

- Infectious substances

The bottom half of the label should bear
Infectious substances (optional) and the inscription
"In the case of damage or leakage
immediately notify Public Health Authority
(optional)

Symbol (three crescents superimposed on a circle)
and inscription : Black
Background : White

- Radio Active substances

Symbol—3 segments of a circle—a number
and lettering of the Class label) shall be
black on a white background and the parallel
lines bordering the Class label shall be black and
shall be 5 mm thick

- Corrosives

Symbol (liquids spilling from two glass
vessels and attaching a hand and a metal) : Black
Background: Upper half white and
Lower half black with white border

[99]TABLE II

Indicative criteria

(A) Explosives :-

An explosive means a solid or liquid or pyrotechnic substance (or a mixture of substances) or an article,—

(i) which is in itself capable by chemical reaction of production of gas at such a temperature and as such a speed as to cause damage to the surroundings;

(ii) which is designed to produce an effect, by heat, light, sound, gas or smoke or a combination of these, of non-detonative self-sustaining exothermic chemical reaction.

(B) Gas:

(1)A gas is a substance which—

(i) at 50°C has a vapour pressure greater than 300 k Pa; or

(ii) is completely gaseous at 20°C at a standard pressure of 101.3 k Pa.

(2)Substances of gas are assigned to one of three following divisions based on the primary hazard of the gas during transport;

(a)*Flammable gases:*

Gases which at 20℃ and a standard pressure of 101.3 kPa,—

(i)are ignitable when a mixture of 13 percent or less by volume with air; or

*(ii)*have a flammable range with air of at least 12 percentage points regardless of the lower flammable limit. Flammability shall be determined by tests or by calculation in accordance with methods adopted by International Standards Organization [ISO: 10156:1996] or by Bureau of Indian Standards [IS:1446-1985];

(b)Non-flammable, non-toxic gases:

Gases which are transported a pressure not less than 280 kPa at 20℃, or as refrigerated liquids and which,—

(i)are asphyxiant-gases which dilute or replace the oxygen normally in the atmosphere;

*(ii)*are oxidizing-gases which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does; or*{Hi)* do not come under the other divisions;

(c)*Toxic gases:*

Gases which are known to be so toxic or corrosive to humans as to pose a hazard to health.

Note.—Gases meeting the above criteria owing to their corrosivity are classified as toxic with a subsidiary corrosive risk.

(C)*Flammable chemicals:*

(i)*Flammable gases.*—Gases which at 20°C and at standard pressure of 101.3k Pa are:—

*(a)*ignitable when a mixture of 13 percent or less by volume with air or

(b) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limits.

Note.—The flammability shall be determined by tests or by calculation in accordance with methods adopted by International Standards Organization (ISO: 10156: 1996) or by Bureau of Indian Standards (IS:1446-1985).

(ii)*Extremely flammable liquids.* —Chemicals which have flash point lower than or equal to 23℃ and boiling point less than 35℃.

(v)*Very highly flammable liquids.* — Chemicals which have a flash point lower than or equal to 23℃ and initial boiling point higher than 35℃.

(iv)Highly flammable liquids.—Chemicals with a flash point lower than or equal to 60℃ but higher than 23℃.

(v)Flammable liquids.—Chemicals which have a flash point higher than 60℃ but lower than 90℃.

(D)*Reactive Substances:*

Reactive substances are those substances which start reacting chemically with any other material and reducing gases through their owned composition. Such substances are Inorganic Alkalies (for example NaoH, Iodine and the like) and Acids (for example H2S04, HN03, HCL and the like)

(E)*Oxidizing Substances:*

(a)Oxidizing substances:

Substances which,while in themselves not necessarily combustible, may generally by yielding oxygen, cause or contribute to the combustion of other material. Such substances may be contained in an article;

(b)Organic peroxides:

Organic substances which contain the bivalent-0-0- structure and may be considered derivative of hydrogen peroxide, where one or both of the hydrogen atoms have been replaced by organic radials. Organic peroxides are thermally unstable substances which may undergo exothermic self-accelerating decomposition. In addition, they may have one or more of the following properties,—

(i)be liable to explosive decomposition;

(ii) burn rapidly;

*(iii)*be sensitive to impact or friction;

*(iv)*react dangerously with other substances;

*(v)*cause damage to the eyes.

(F)*Toxic:*

Toxic chemicals:— Chemical having the following values of acute toxicity and which owing to their physical and chemical properties, are capable of producing major accident hazards:—

SI. No	Toxicity	Oral toxicity (mg/kg)	Dermal toxicity (mg/kg)	Inhalation toxicity (mg/I)
1	Extremely toxic	>5	<40	<0.5
2	Highly toxic	>5-50	>40-200	<0.50-10
3	Toxic	>50-200	>200-1000	>2-10

1.LD50oral in rats

2.LD50coetaneousinratsorrabbits

3.LC50byinhalation(fourhours) inrats.

(G)Radioactive:

Radio active materials mean any material containing radio nuclide where both the activity concentration and the total activity in the consignment exceed the values specified, depending on the type of material by the Atomic Energy Commission of India.

(H)Corrosive:

Corrosive substances are substances which by chemical action will cause severe damage when in contact with living tissue or in the case of leak age will materially damage or even destroy other goods or the means of transport. They may also cause other hazards.

TABLE III

E—Explosive, F—Flammable,	O—Oxidising,	R—Reactive,C—Corrosive,
Ra—Radioactive, T—Toxic,	G—Gas.	

List of Hazardous Goods

Sr. No.	Name	E	F	O	R	c:	Ra	T	G
1	1Hexene	E	F						
2	1Methylpiperidine		F						
3	1,1-Difluoroethylene(Refrigerated Gas R1132a)								G
4	1,2-Dichloro-l, 1,2,2-Tetrafluoroethane(Refrigerated Gas R114)								G
5	1,1,1,2-Tetrafluoroethane (Refrigerant Gas R134a)								G
6	1,1,1-Trifluoroethane(Refrigerant Gas R143a)								G
7	1,1,-Trichloroethane							T	
8	1,1-Dichloro-l-Nitroethane							T	
9	1,1-Dichloroethane		F						
10	1,1-Difluoroethane								G
11	1,1-Dimethoxyethane		F						
12	1,2,3,6-Tetrahydrobenzaldehyde		F						
13	1,2,3,6-Tetrahydropyridine		F						
14	1,2-Butylene Oxide, Stabilized		F						
15	l,2-Di-(Dimethylamino)Ethane		F						
16	1,2~Dibromobutan3-one							T	
17	1,2-Dichloroethylene		F						
18	1,2-Dichloropropane		F						
19	1,2-Dimethoxyethane		F						
20	1,2-Epoxy-3-Ethoxypropane		F						
21	1,2-Propylenediamine					c			
22	1,3,5-Trimethylbenzene		F						
23	1,3-Dichloroacetone							T	
24	1,3-Dichloropropanol-2							T	
25	1,3-Dimethylbutylamine		F						
26	1,4-Butynediol							T	
27	1,5,9-Cyclododecatriene							T	
28	1-Bromo-3-chloropropane							T	
29	1-Bromo-3-Methylbutane		F						
30	1-Chloro-l,1-Difluoroethane(Refrigerant Gas R142b)								G
31	l-Chloro-2,2,2-Trifluoroethane(Refrigerant Gas R133a)								G
32	1-Ethylpiperidine		F						
33	1-Methoxy-2-Propanol		F						
34	1-Pentol					C			
35	2-(2-Aminoethoxy)Ethanol					C			
36	2,2-Dimethylpropane								G
37	2,4-Toluylenediamine							T	
38	2,2'-Dichlorodiethyl Ether							1	
39	2,3Dihydropyran		F						
40	2,3-Dimethylbutane		F						

41	2-Amino-4,6-Dintrophenol Wetted		F						
42	2-Amino-4-Chlorophenol							T	
43	2-Amino-5-Diethylaminopentane							T	
44	2-Bromo-2-Nitropropane-l, 3-Diol		F						
45	2-Bromoethyl Ethyl Ether		F						
46	2-Bromopentane		F						
47	2-Chloroethanal							T	
48	2-Chloropropane		F						
49	2-Chloropropene		F						
50	2-Chloropropionic Acid, Solid							T	
51	2-Chloropropionic Acid, Solution					**c**			
52	2-Chloropyridine							T	
53	2-Diethylaminoethanol					**c**			
54	2-Dimethylaminoacetonitrile		F						
55	2-Dimethylaminoethanol					**c**			
56	2-Dimethylaminoethyl Acrylate							T	
57	2-Dimethylaminoethyl Methacrylate							T	
58	2-Ethylaniline							T	
59	2-Ethylbutanol		F						
60	2-Ethylbutyraldehyde		F						
61	2-Ethylhexyl Chloroformate							T	
62	2-Ethylhexylamine		F						
63	2-Iodobutane		F						
64	2-Methyl-l- Butene		F						
65	2-Methyl-2 Butene		F						
66	2-Methyl-2-ITeptanethios							T	
67	2-Methyl-5-Ethylpyridine							T	
68	2-Methylfuran		F						
69	2-Methylpentan-2-OL		F						
70	2-Trifluoromethylaniline							T	
71	3,3-Diethoxypropene		F						
72	3,3'-Iminodipropylaminc					C			
73	3-Bromopropyne		F						
74	3-Chloro-4-MethylphenylIsocyanate							T	
75	3-Chloropropanol-l							1	
76	3-Methyl-l-Butene		F						
77	3-Methylbutan-2-One		F						
78	3-Nitro-4-Chlorobenzotrifluoride					C			
79	3-Trifluoromethylanilinc							T	
80	4Methoxy-4-Methylpentan2-one		F						
81	4,4'-Diaminodiphenylmethane							T	
82	4-Chloro-o-Toluidine Hydrochloride							T	
83	4-Methylmorpholine(N-Methyl morpholine)		F						
84	4-Thiapcntanal							T	
85	5-Viethylhexan-2-one		F						
86	5-Nitrobenzotriazol	E							
87	5-tert-Butyl-2,4,6-Trinitro-m-Xylene		F						
88	9-Phosphabicyclononanes(Cyclooctadiene Phosphines		F						
89	Acetaldehyde		F					T	
90	Acetaldehyde Ammonia							T	

91	Acetic Acid					**c**			
92	Acetic Acid Solution					**c**			
93	Acetic Acid, Glacialor Acetic Acid Solution					**c**			
94	Acetic Anhydride					C			
95	Acetic Cyanothydrin							T	
96	Acetone		F						
97	Acetone Cyanohydrin							T	
98	Acetone Cyanohydrine(2-Cyanopropan-2-OL)							T	
99	Acetone Oils		**r**						
100	Acetone Thiosemicarbazide							T	
101	Acetonitrile		F					T	
102	Acetyl Bromide					**c**			
103	Acetyl Chloride		F					T	
104	Acetyl Iodide					**c**			
105	Acetyl Methyl Carbinol		F						
106	Acetylene							T	G
107	Acetylene(Ethyne)		F						
108	Acetylene Tetra Chloride							T	
109	Acridine							T	
110	Acrolein(2-Propenal)		F					T	
111	Acrolein Dimer, Stabilized		F						
112	Acrylamide							1	
113	Acrylic Acid, Stabilized					c:			
114	Acrylonitrile		F					1	
115	Adiponitrile							1	
116	Aerosols								G
117	Aircraft 1lydraylic Power Unit Fuel Tank		F						
118	Alcoholates Solution, N.O.S.		F						
119	Alcoholic Beverages		F						
120	Alcohols, Flammable, Toxic,N.O.S.		F						
121	Alcohols, N.O.S.		F						
122	Aldehydes, Flammable, Toxic, N.O.S.		F						
123	Aldehydes,N.O.S.		F						
124	Aldicarb							I	
125	Aldol							T	
126	Alkali Metal Alloy, Liquid,N.O.S.		F						
127	Alkali Metal Amalgam		F						
128	Alkali Metal Amide		F						
129	Alkali Metal Dispersionor Alkaline Earth Metal Dispersion		F						
130	Alkaline Earth Metal Alcoholates, N.O.S.		F						
131	Alkaline Earth Metal Amalgam		F						
132	Alkaline Metal Alcoholates, Self-Heating, Corrosive, N.O.S.		F						
133	Alkaloids, Liquid,N.O.S. or Alkaloid Salts, Liquid, N.O.S.							T	
134	Alkyl Phthalate					c			
135	Alkylphenols, Liquid, N.O.S.					c			
136	Alkylphenols, Solid, N.O.S.					c			
137	Alkylsulphuric Acids					c			

138	Alkysulphonic Acids, Liquid Arkysulphonic Acids, Liquid					c			
139	Alkylsulphonic Acids, Liquidor Arylsulphonic Acids, Liquid					c			
140	Alkysulphonic Acids,Solidor Arylsulphonic Acids, Solid					c			
141	Allyl Alcohol		F					T	
142	Allyl Alcohol(2-Propen-l-OL)		F					T	
143	Allyl Amine							1	
144	Allyl Bromide		F					T	
145	Allyl Chloride		F					1	
146	Allyl Chloroformate							T	
147	Allyl GlyddylEther		F						
148	Allyl Iodide		F						
149	Allylamine							T	
150	Allyltrichlorosilane, Stabilized					C			
151	Alpha Naphthyi Thiourea					c			
152	Alpha-Methylbenzyl Alcohol							T	
153	A1pha-Methylvaleraldehyde		F						
154	Alpha-Naphthylamine							T	
155	Alpha-Pinene		F						
156	Aluminium(Powder)							T	
157	Aluminium Alkyl Haldies, Liquid/Solid		F						
158	Aluminium Alkyl Hydrides		F						
159	Aluminium Alkyls		F						
160	Aluminium Azide		F					T	
161	Aluminium Borohydride		F					T	
162	Aluminium Bromide Solution					C			
163	Aluminium Bromide, Anhydrous					c			
164	Aluminium Carbide		F					T	
165	Aluminium Chloride					c			
166	Aluminium ChlorideSolution					c			
167	Aluminium Chloride, Anhydrous					c			
168	Aluminium Fluoride					c			
169	Aluminium Hydride		F						
170	Aluminium Nitrate			O					
171	Aluminium Phosphide		F						
172	Aluminium Phosphide Pesticide							T	
173	Aluminium Resinate		F						
174	Aluminium Smelting By-Products or Aluminium Remelting By Products		F						
175	Amines, Flammable, Corrosive, Flammable M.O.S. Polyaines, Liquid, Corrosive, Flammable, N.O.S.					c			
176	Amines, Flammable, Corrosive, N.O.S. or Polyaines, Flammable, Corrosive, N.O.S.		F						
177	Amines, Liquid, Corrosive, N.O.S. or Polyaines, Flammable, Liquid, Corrosive, N.O.S.					c			
178	Amines, Solid, Corrosive, N.O.S. or Polyamines, Solid, Corrosive, N.O.S.					c			
179	Amino Diphenyl							T	
220	Amyl Nitrate		F						

221	Amylamine		F						
222	Amyltrichlorosilane					C			
223	Anabasine							T	
224	Aniline							T	
225	Aniline2,4,6-Trimethyl							T	
226	Aniline Hydrochloride							T	
227	Anisidine-P							T	
228	Anisidines							T	
229	Anisole		F						
230	Anisoyl Chloride					c			
231	Anthraquinone							T	
232	Anthrawuinone							T	
233	Antimonyand Compounds					c		T	
234	Antimony Hydride(Stibine)		F					T	
235	Arasenous Trichloride							T	
236	Argon, Refrigerated Liquid								G
237	Arsenicand All Arsenic Compoundsinany Form							T	
238	Arsenic Hydide(Arsene)							T	
239	Arsenic Pentoxide, Arsenic(V)Acid and Salts							T	
240	ArsenicTrioxide, Arsenious(III) Acids and salts							T	
241	Asbestos							T	
242	Aviation Regulated Liquid, N.O.S./Solids, N.O.S.	E	F						
243	Azinphos- Ethyl							T	
244	Azinphos Methyl							T	
245	Azoidic Arbonamide		F						
246	Barium Azide	E							
247	Barium Brornate			O					
248	Barium Chlorate			O					
249	Barium Cyanide							T	
250	Barium Hypochlorite			O					
251	Barium Nitrate					c			
252	Barium Nitride					C			
253	Barium Oxide							T	
254	Barium Perchlorate			O					
255	Barium Permanganate			0					
256	Barium Peroxide			Q					
257	Batteries Fluid, Alkali					c			
258	Batteries Wet, Filled with Acid					C			
259	Batteries Wet, Filled with Alkali					C			
260	Batteries Wet, Non-Spillable					c			
261	Batteries, containing Sodium, or Cells, containing Sodium		F						
262	Batteries, Dry, containing Potassium Hydroxide Solid					c			
263	Benxoyl Peroxide			0					
264	Benzal Chloride			U					
265	Benzaldehyde			U					
266	Benzenamine, 3-Trifluoromethyl					c			—
267	Benzene		h					1	
268	Benzene ArsenicAcid							1	
269	Benzene Chloride							1	

270	Benzene Sulfonyl Chloride							]	
271	Benzene, l-(Chloromethyl)-4Nitro							1	
272	Benzene, l-(Chloromethyl)4-Nitro							1	—
273	Benzenesulphony1 Chloride		P			(			
274	Benzidine							i	
275	Benzidine Salts							1	
276	Benzimidazole,4,5-Dichloro-2 (Trifluoromethyl)							i	-
277	Benzonitrile							1	
278	Benzoquinone							1	
279	Benzoquinone-P							T	
280	Benzotrichloride					c			
281	Benzoyl Chloride					c			
282	Benzoyl Peroxide	E						T	
283	Benzyl Bromide							i	
284	Benzyl Chloride							T	
285	Benzyl Chloroformate					c			
286	Benzyl Cyanide							1	
287	Benzyl Iodide							1	
288	Benzyldimethylamine					(			
289	Benzylidene Chloride							1	
290	Beryllium(Powder)							T	
291	Beryllium(Powders, Compounds)							T	
292	Beryllium Compound, N.O.S.							T	
293	Beryllium Nitrate			0					
294	Beryllium Powder							T	
295	Bibyridilium Pesticide Solid, Toxic							I	
296	Bibyridilium Pesticide, Liquid, Flammable,Toxic		F						
297	Bicyclo(2,2,1)Heptane-2-Carbonitrile							T	
298	Bicylco(2.2.1)Hepta-2,5-Diene,Stabilized(2,5-Norbornadiene,Stabilized)		F						
299	Biphenyl							T	
300	Bipyridilium Pesticide, Liquid, Toxic							T	
301	Bipyridilium Pesticide, Liquid, Toxic, Flammable							T	
302	BIS(2,4,6-Trimitrophenylamine)					C			
303	BIS(2,4,6-Trinitrophenyl)Amine	E						T	
304	BIS(2-Chloromethyl) Sulphide							T	
305	BIS(2-Chloromethyl) Ketone							T	
306	BIS(Chloromethyl) Ether							r	
307	BIS(Chloromethyl) Ketone							T	
308	BIS(Terbutylperoxy) Butane		F					T	
309	BIS(Tert-Butyl Peroxy) Cyclohexane					C		T	
310	BIS(Tert-Butylperoxy Butane,-2,2)					c		\	
311	BIS(Tert-Butylperoxy) Cyclohexane, 1,1					c		T	
312	BIS(Tert-Butylperoxy) Cyclohexane-1,1								
313	BIS(Tert-Butylperoxy, Butane, 2, -2)				R				
314	BIS,l,2Tribromophenoxy-Ethane							T	
315	Bismuth & Compounds						Ra	T	
316	Bisphenol							T	
317	Bisulphates, Aqueous Solution					c			
318	Bisulphites, Aqueous Solution,N.O.S.					c			

319	Bitoseanate			O					
320	Blue Asbestosor Brown Asbestos							T	
321	Bombs, Smoke, Non-Explosive					c			
322	Boronand Compounds							T	
323	Boron Powder							T	
324	Boron Tribyomide					c			
325	Boron Trichloride								
326	Boron Trifluoride							T	
327	Boron Trifluoride Acetic Acid Complex					c			
328	Boron Trifluoride Comp. With Methyl-Ether1.1							r	
329	Boron Trifluoride Diethyl Etherate					c			
330	Boron Trifluoride Dihydrate					c			
331	Boron Trifluoride Dimethyl Etherate		F						
332	Boron Trifluoride Propionic Acid Complex					c			
333	Boron Trifluoride, Compressed								
412	Calcium Permanganate			O					
413	Calcium Peroxide			O					
414	Calcium Resinate		b						
415	Calcium Silicide		F						
416	Calcium, Pyrophoricor Calcium Alloys, Pyrophonc		F						
417	Camphor		b						
418	Camphor Oil		b						
419	Caprioc Acid					c			
420	Carbamate Pesticide, Liquid, Toxic							1	
421	Carbamate Pesticide, Liquid, Toxic		b						
422	Carbamate Pesticide, Liquid, Toxic, Flammable							T	
423	Carbamate Pesticide, Solid, Toxic							T	
424	Carbaryl (Sevin)							1	
425	Carbofuran							T	
426	Carbofuran (Furadan)							T	
427	Carbon Dioxide Refrigerated Liquid								c;
428	Carbon Disulphide		F					T	
429	Carbon Monoxide		F					T	
430	Carbon Monoxideand Hydrogen Mixture, Compressed							T	G
431	Carbon Tetrabromide							T	
432	Carbon Tetrachloride							T	
433	Carbon, Activated		F						
434	Carbonyl Fluoride, Compressed								G
435	Carbonyl Sulphide							T	
436	Carbophenothion							T	
437	Cartridges	E							
438	Caustic Alkali Liquid,N.O.S.					c			
439	Cehulose Nitrate	E	F						
440	Celluloid		F						
441	Celluloid, Scrap		F						
442	Cellulose Nitrate	E	F						
443	Cerium		F						
444	Chemical Sample, Toxic							T	
445	Chloral, Anhydrous, Stabilized							T	
446	Chlorates (Used in Explosives)	E							

447	Chlorates, Inorganic, Aqueous Solution,N.O.S.			O					
448	Chlorfenvinphos							T	
449	Chloric Acid, Aqueous			O					
450	Chlorinated Benzenes							T	
491	Chloroethyl Chloroformate							T	
492	Chlorofehvinphos							T	
493	Chloroflurocarbons							T	
494	Chlorophorm							T	
495	Chloroformates.Toxic, Corrosive,N.O.S							T	
496	Chloroformyl Morploline							T	
497	Chloroformyl -4 Morpholine							T	
498	Chloromethane							T	
499	Chloromethyle Chloroformate							T	
500	Chloromethyle Ether							T	
501	Chloromethyle Ethyle Ether							T	
502	Chloromethyle Methyle ether		F						
503	Chloromormates, Toxic,Corrosive, Flammable,							T	
504	Chloronitroanilines							T	
505	Chloronitrobeenzene	E						T	
506	Chloronitrobeenzene							T	
507	Chloronitrotoluenes, Liquid/Solid							T	
508	Chloropentafluroethane								G
509	Chlorophacinone							T	
510	Chlorophenolates Liquid or Phenolates, liquid						C		
511	Chlorophenolates ,Solid or Phenolates, Solid						C		
512	Chlorophenols, Liquid							T	
513	Chlorophenyltrichlor -Silane						C		
514	Chloropicrin							T	
515	Chloropicrin Mixture, N.O.S								
516	Chloroplatinic Acid, Solid						C		
517	Chloroprene		F					T	
518	Chloroprene, satabilized		F						
519	Chlorosilanes, Corrosive, Flammable, N.O.S								
520	Chlorosilanes, Corrosive, N.O.S								
521	Chlorosilanes, Corrosive,Flammable, N.O.S		F						
522	Chlorosulphonic Acid					C			
523	ChloroCthipos							T	
524	Chlorotolunes		F						
525	Chlorotoluidines							T	
526	Chlorotrifluromethane								
527	Chlorotrifluoromethane and Trifluromethane								G
528	Cholorotrintro								
529	Chloroxuron							T	
530	Chlorphenols,Solid							T	
531	Chloroethyle Chloroformate							T	
532	Chromic Acid			O		C		T	
533	Chromic acid Solution					C			
534	Chromic Chloride			O		C		T	
535	Chromic Fluoride , Solution					C			
536	Chromic Fluoride solid					C			

537	Chromium and Compounds							T	
538	Chromium Nitrate			O					
539	Chromium Oxychloride					C			
540	Chromium Powder							T	
541	Chromium Trioxide, Anhydrous			O					
542	Chromosulphuric acid					C			
543	Clinical waste ,Unspecified, N.O.S or (bio)							T	
544	Chlorine							T	
545	Coal Tar Distillates, Flammable		F						
546	Cobalt and Compounds							T	
547	Cobalt (powder)							T	
548	Cobalt Carbonyl							T	
549	Cobalt Napthenates,Powder		F						
550	Cobalt Nitrilmathylidyne Compound							T	
551	Cobalt resinate ,Preciitated		F						
552	Coloured fire	E							
553	Compressed Gas, Flammable,N.O.S.								G
554	Compressed Gas, Flammable, Corrosive		F			C		T	
555	Copper acetoarsenite							T	
556	Copper and compounds							T	
557	Copper Arsenite							T	
558	Copper Based pesticide, Liqiud, Flammable		F						
559	Copper Based pesticle,Liquid, toxic,							T	
560	Copper based pesticide , Solid toxic							T	
561	Copper Based pesticle, Solid Liquid, toxic,							T	
562	Copper chlorate			O					
563	Coppe Chlorate					C			
564	Copper cynide Copperoxychloride							T	
565	Coroformyl,-4 Niorpholine							T	
565	Corrosive Liquid, Acidic, Inorganic, N.O.S					C			
566	Corrosive Liquid, Acidic,, N.O.S inorganic					C			
567	Corrosive Liquid, Acidic, Organic, N.O.S					C			
568	Corrosive Liquid, basic Inorganic, N.O.S					C			
569	Corrosive Liquid, Acidic, Organic, N.O.S					C			
570	Corrosive Liquid, Flammable, N.O.S					C			
571	Corrosive Liquid, oxidizing, N.O.S					C			
572	Corrosive Liquid, Self-Heating N.O.S					C			
573	Corrosive Liquid, Toxic N.O.S					C			
574	Corrosive Liquid, Water-Reactive N.O.S					C			
575	Corrosive solid, Acidic Liquid, Inorganic					C			
576	Corrosive Solid Acidic Organic N.O.S					C			
577	Corrosive solid, Basic, Inorganic,N.O.S					C			
578	Corrosive Solild, Basic, Organic, N.O.S					C			
579	Corrosive Solid, Oxidizing N.O.S					C			
580	Corrosive Solid, Toxic N.O.S					C			
581	Corrosive Solid, Water-Reactive, N.O.S					C			
582	Coumarin Derivative Pesticle, liquid, Toxic		F						
583	Coumarin Derivative liquid, Toxic							T	
584	Coumarin Derivative Pesticle, liquid, Toxic,							T	
585	Coumarin Derivative Pesticle, Solid,toxic							T	
586	Coumatertralyl							T	

587	Cresols							T	
588	Cresols, Liquid/Liquid							T	
589	Cresylic Acid							T	
590	Crimidine							T	
591	Crotonaldehyde		F					T	
592	Crotonic Acid						C		
593	Cumene							T	
594	Cupriethylenediamine Solution						C		
595	Cynide Solution, N.O.S.							T	
596	Cynides, Inorganic,Solid, N.O.S.							T	
597	Cyanogen								G
598	Cyanogen Bromide							T	
599	Cyanogen chloride ,Stabilized							T	G
600	Cyanogen Iodide							T	
601	Cyanothoate							T	
602	Cynuric Chloride					C			
603	Cyanuric Fluoride								
604	Cyclobutane								G
605	Cyclobutyl Choroformate							T	
606	Cycloheptane		F						
607	Cucloheptane		F						
608	Cyclohatatriene		F						
609	Cyclohexane		F						
610	Cyclohexanone		F						
611	Cyclohexane		F						
612	Cyclohexenyltrichlorosilane				C				
613	Cycloheximide							T	
614	Cyclohexyl Acetate		F						
615	Cyclohexyl Isocyanate						T		
616	Cyclohexyl Mercaptan		F						
617	Cyclohexylamine					C			
618	Cyclohexytrichlorosilane					C			
619	Cycloctdienes		F						
620	Cyclooctetraene		F						
621	Cyclopentadiene		F						
622	Cyclopentane		F						
623	Cyclopentol		F						
624	Cyclopentanone		F						
625	Cyclopentene		F						
626	Cyclopropane								G
627	Cycloptetrametylene tetranitramine	E							
628	Cyclotetrametylene tatranitramine (Hmx,	E							
629	Cyclotetrametylene tatranitramine and Cylotetramethylenetetranitramine Mixure wettd or Cyclotrimethyle	E							
630	Cymes		F						
631	DDT							T	
632	Decaborane							T	
633	Decaboreneo		F						
634	Decabromodiphenyl Oxide						T		
635	Decahydeonaphthalene		F						

636	Deglagrating Metal Salts Of Aromaitc	E							
637	Demeton							T	
638	Dementon S-Methyle							T	
639	Detonators	E							
640	Deuterium, Compressed								G
641	Device, small hydrocarbon Gas Powered or								G
642	Dhsobutylamine		F						
643	Diacetone Alcohol		F						
644	Dialifos							T	
645	Dially Ether		F						
646	Dialylamine		F						
647	Diazodinitrophenol	E							
648	Diazodinitrophenol, Wetted	E	F						
649	Diazomethane							T	
650	Dibengyle Peroxydiacarbonate				R				
651	Dibengyle Peroxydiacarbonate (Conc>=90%							T	
652	Dibenzyledichlorosilane					C			
653	Diaborane							T	
654	Diaborane, Compressed								G
655	Dibromochloropropanes							T	
656	Dibromodifluoromethane							T	
656	Dibromodifluoromethane							T	
657	Dibromomethane							T	
658	Dibutyle Ethers		F						
659	Dibutylminoethanol							T	
660	Dichloro Obenzene-O							T	
661	Dichloroacetic acid					C			
662	Dichloroacetyle chloride					C			
663	Dichloroacetylene							T	
664	Dichloroacetylene-O							T	
665	Dichloroanililnes, Liquid							T	
666	Dichlorobenzenezalkonium Chloride							T	
667	Dichlorobenzene-p							T	
668	Dichlorodifluromethane								G
669	Dichlorodifluoromethane and difluroethane								G
670	Dichloromethyl Ether, Symmetrical							T	
671	Dichloroethane							T	
672	Dichloroethayl Ether							T	
673	Dichlororisocyanuric Acid ,Dry or			O					
674	Dichloroisoprpyl Ether							T	
675	Dichloromethane							T	
676	Dichloromethyle Phenysilane							T	
677	Dichloropentanes		F						
678	Dichlorophenol,-2,4 & -2,6							T	
679	Dichlorophenoxy Acetic Acid							T	
680	Dichlorophenixy Acetic Acid -2, 4(2,4-D)							T	
681	Dichlorophenyl Isocynates							T	
682	Dichlorophenyl Trichlorosilane					C			
683	Dichloropropane 2,2							T	
684	Dichloropropane -1,2							T	
685	Dichloropropenes		F						

686	Dichlorosalicylic Acid, -3,5							T	
687	Dichlorosalicylic Acid-3,5							T	
688	Dichlorosilane								G
689	Dichlorvos(DDVP)							T	
690	Dicrotophos							T	
691	Dicyclohexlamine					C		T	
692	Dicyclohexylammonium Nitrite		F						
693	Diclypentadiene		F						
694	Didymium Nitrate			O					
695	Diepoxy Butane							T	
696	Diepoxybutane							T	
697	Deithleneglycol Butyl Ether							T	
698	Dithoxy Methane		F						
699	Diethye Peroxidicarbonate				R				
700	Diethyl carbamazaine Citrate				R				
701	Diethyl Carbamazine Citrate				R				
702	Diethyl Carbonate		F						
703	Diethyl Chlorophosphate							T	
704	Diethyl Ethanolamine							T	
705	Diethyl ether (Ethyle Ether)		F						
706	Diethyl Glycol Dinitrate							T	
707	Diethyl ketone		F						
708	Diethyl peroxydicarbonate (Coc=30%)							T	
709	Diethyl peroxydicarbonate(Coc=30%)							T	
710	Diethyl Phenylene diamine							T	
711	Diethyle sulphate							T	
712	Diethyle sulphide		F						
713	Diethylamine				R				
714	Diethylamine Ehanol							T	
715	Diethylaminopropylamine		F						
716	Diethylbenzene		F						
717	Diethydichlorosilane					C			
718	Diethylene Glycol							T	
719	Diethylene Glycol Butyl Ether							T	
720	Diethylene Glycol Dinitrate							T	
721	Diethylene Triamine							T	
722	Diethyleneglycol Butyl Ether/							T	
723	Diethyleneleneglycol, Dintrate, Desensitized	E				C			
724	Diethylenetriamine					C			
725	Diethylenetriamine (Deta)					C			
726	Diethylthiophosphoryl Chloride					C			
727	Difluoromethane (Refrigerant Gas R 32)								G
728	Difluorophosphoric Acid ,Anhydrous					C			
729	Digitoxin					C			
730	Diglycidyl Ether							T	
731	Dihlorofluoromethane								G
732	Dihydroperoxypropane (Conc>= 30%)							T	
733	Dihydrpperoxypropane , -2,2	E							
734	Diisobutyl Ketone		F						
735	Diisobutyle Peroxide				R				
736	Di-Isobutyl Peroxide							T	

737	Diisobutylene, Isomeric Compounds		F						
738	Di-Isobutyryl Peroxide							T	
739	Diisooctyl Acid Phosphate					C			
740	Diisopropyl Ether		F						
741	Diisopropyl amine				R				
742	Dikketene,Stabilized							T	
743	Dimefox		F			C			
744	Dimethacaebonyl Chloride							T	
745	Dimethacarbonyl Chloride							T	
746	Dmeythoate							T	
747	Dimethyl Carbonate		F					T	
748	Dimethyl Dichlorosilane							T	
749	Dimethyl Disulphide		F						
750	Dimethyl Ether							G	
751	Dimethyl Hydrazine					C			
752	Dimethyl Nitrosoamine					C			
753	Dimethyl P Phenylene Diamine							T	
754	Dimethyl Phosphoramidi Cynidic Acid							T	
755	Dimethyl Phosphoramidocyanidic acid							T	
756	Dimethyl Phosphorochloridothiate							T	
757	Dimethyl Phthalate							T	
758	Dimethyl Sulfolane(Dms)							T	
759	Dimethyl Sulphate							T	
760	Dimethyl Sulphide		F						
761	Dimethyl Thiophosphoryl Chloride							T	
762	Dimethylamine							T	
763	Dimethyllamine Aqueous Solution		F						
764	Dimethylamine Anhydrous							T	
765	Dimethylaniline							T	
766	Dimethylcarbamoyl Chloride					C		T	
767	Dimethylcarbamoyl							T	
768	Dimethylcarbonyl Chloride							T	
769	Dimethylcyclohexanenanes		F						
770	Dimethylcylcohaxylamine					C			
771	Dimethyldichlorosilane		F						
772	Dimethyldiethoxysilane		F						
773	Dimethyldioxanes		F						
774	Dimethylformamide							T	
775	Dimethylhydrazine, Symmetrical							T	
776	Dimethylhydrazine, Unsymmetrical							T	
777	Dimethylnitrosamine							T	
778	Dimethyl-N-propylamine		F						
779	Dimetilan							T	
780	Di-N-Amylamine		F						
781	Di-N-Butylamine					C			
782	Dinitrto-O-Cresol							T	
783	Dinitrobenzene							T	
784	Dinitrobenzene, Liquid							T	
785	Dinitrobenzene, Solid							T	
786	Dinitrogen Tetroxide (Nitrogen Dioxide)								G
787	Dinitro-O-Cresol							T	

788	Dinitrophenol	E		O		C			
789	Dinitrophenol Solution							T	
790	Dinitrophenol, Salts	E						T	
791	Dinitrophenol, Wetted		f						
792	Dinitrophenol, Wetted		F						
793	Dinitroresorcinol	E							
794	Dinitroresorcinol, Wetted		F						
795	Dinitrosobenzene	E							
796	Dinitrotoluene							T	
797	Dinitrotoluene, Liqiud/Solid							T	
798	Dinitrotoluene,Molten	E						T	
799	Di-N-Propyl Ether		F						
800	Di-N-Propyl Ether Peroxidicarbonates				R				
801	Di-N-Propyl Ether				R				
802	Dioxane		F					T	
803	Dioxane-P							T	
804	Dioxathion							T	
805	Dioxine-N							T	
806	Dioxolane		F						
807	Dipentene		F						
808	Diphacinone							T	
809	Diphenyl Mathane di-Isocynate(Mdi)							T	
810	Diphenyl amine Chloroarsine							T	
811	Diphenyl chloroarsine, Liquid/Solid							T	
812	Diphenyl dichlorosilane					C			
813	Diphenyl methyl Bromide					C			
814	Diphophoramide Octamrthyl							T	
815	Dipicryl Sulphide	E							
816	Dipicryl Sulphide ,Wetted		F						
817	Dipropyl Ketone		F						
818	Dipropylamine		F						
819	Dipropylene Glycol Butyl Ether		F						
820	Dipropyl ene Glycolmethylether		F						
821	Dichlorophenoxy Acetic Acid		F						
822	Discrotophos		F						
823	Di-Sec-Butyl Peroxidicarbonate				R				
824	Di-Sec-Butyl Peroxidicarbonate (Conc>80%)				R			T	
825	Disinfectant, Liqiud ,Corrosive N.O.S.					C			
826	Disinfectant Liqiud, N.O.S., Toxic							T	
827	Disinfectant, Solid, N.O.S., Toxic							T	
828	Disobutyl Peroxide							T	
829	Disodium Trioxosilcate					C			
830	Disulfoton							T	
831	Dithiazamine Iodide							T	
832	Dithiobiurate							T	
833	Dithydroperoxypropane,-2,2							T	
834	Divinyl Ether , Satbilized							T	
835	Dodecyltrichlorosilane					C			
836	Dry, Liquid, Corrosive, N.O.S. or Dye					C			
837	Dye, Solid, Corrosive, N.O.S. or Dye					C			
838	Dye, Solid, Toxic, N.O.S. or Dye Intermediate,							T	

839	Ear gas Substance, Liquid/Solid, N.O.S.							T	
840	Elevated Temperature Liquid, Flammable		F						
841	Epibromohydrin							T	
842	Epichlorohydrin		F					T	
843	Epn							T	
844	Epoxypropane, 1,2							T	
845	Ergocalciferol							T	
846	Ergotamine Tartarate							T	
847	Esters, N.O.S.		F						
848	Ethane								
849	Ethane, Refrigerated Lliquid								
850	Ethanesulfenyl Chloride, 2, Chloro								
851	Ethanol 1-2 Dichloracetate							T	
852	Ethanol or Ethanol Solution		F						
853	Ethanolamine or Ethanolamine Solution					C			
854	Ethers, N.O.S.		F						
855	Ethion							T	
856	Ethoprophos							T	
857	Ethyl 2-Chloropropionate		F						
858	Ethyl Acetate		F						
859	Ethyl Acrylate, Stabilized		F						
860	Ethyl Alcohol		F						
861	Ethyl Amine						G		
862	Ethyl Amyl ketone		F						
863	Ethyl Benzene						G		
864	Ethyl Bis Amine						G		
865	Ethyl Borate		F						
866	Ethyl Bromide								
867	Ethyl Bromoacetate								
868	Ethyl Butyl Ether		F						
869	Ethyl Butyrate		F						
870	Ethyl Carbamate						T		
871	Ethyl Chloride						G		
872	Ethyl Chloroacetate								
873	Ethyl Chloroformate								
874	Ethyl Chlorothioformate				C				
875	Ethyl Crotonate		F						
876	Ethyl Ether		F						
877	Ethyl Fluoride (Refrigerant Gas R 161)						G		
878	Ethyl Isobutyrate		F						
879	Ethyl Isocyanate		F						
880	Ethyl Lactate		F						
881	Ethl Mercaptan		F						
882	Ethyl Mercuric Phosphate								
883	Ethyl Methacrylate		F						
884	Ethyl Methyl Ether						G		
885	Ethyl Methyl Ketone (Methyl Ethyl Ketone)		F						
886	Ethyl Nitrate	E							
887	Ethyl Orthoformate		F						
888	Ethyl Oxalate								
889	Ethyl Propionate		F						
890	Ethyl Propyl Ether		F						
891	Ethyl Thiocyanate								
892	Ethylacetylene, Stabilized						G		

893	Ethylamine						G		
894	Ethylamine, Aqueous Solution		F						
895	Ethylbenzene		F						
896	Ethyldichloroarsine								
897	Ethyldichlorosilane		F						
898	Ethylene						G		
899	Ethylene Chlorohydrin								
900	Ethylene Chlorohydrine								
901	Ethylene Dl-Chloride								
902	Ethylene Diamine	F			C				
903	Ethylene Diamine Hydrochloride								
904	Ethylene Dibromide								
905	Ethylene Dibromide(1,2-Dibromomethane)								
906	Ethylene Flourohydrine	F							
907	Ethylene Flourohydrine								
908	Ethylene Glycol								
909	Ethylene Glycol Dinitrate	E							
910	Ethylene Glycol Monoethyl Ether		F						
911	Ethylene Glycol Monoethyl Ether Acetate		F						
912	Ethylene Glycol Monomethyl Ether		F						
913	Ethylene Glyol Diethyl Ether		F						
914	Ethylene Oxide	E			R			T	
915	Ethylene Oxide and Carbon Dioxide Mixture								G
916	Ethylene Oxide and Carbon Dioxide Mixture								G
917	Ethylene Oxide and Chlorotetrafluoroethane Mixture								G
918	Ethylene Oxide and Dichlorodifluoromethane Mixture								G
919	Ethylene Oxide and Pentrafluoroethane Mixture								G
920	Ethylene Oxide and Propylene Oxide Mixture		F						
921	Ethylene Oxide and Tetrafluoroethane Mixture								G
922	Ethylene Oxide or Tehylene Oxide With Nitrogen								G
923	Ethylene, Acetylene and Propylene Mixture, Refrigerated Liquid								G
924	Ethylene, Compressed								G
925	Ethylene, Refrigerated Liquid								G
926	Ethyleneamine		F						
927	Ethylenediamine					C			
928	Ethylphenyldichlorosilane					C			
929	Ethylthiocyanate							T	
930	Ethyltrichlorosilane		F						
931	Explosive, Blasting Type E	E							
932	Explosive, Blasting, Type A	E		O					
933	Explosive, Blasting, Type B	E				C	Ra		
934	Ferric Arsenate							T	
935	Ferric Arsenite							T	
936	Ferric Chloride Solution					C			
937	Ferric Chloride, Anhydrous								
938	Ferric Nitrate			O					
939	Ferrous Arsenate							T	
940	Ferrous Metal Borings, Shavings, Turnings or Cuttings		F						
941	Fire Extinguisher Charges				R			T	
942	Firelighters, Solid		F						

943	Fireworks	E							
944	Flammable Liquid Corrosive, N.O.S.		F						
945	Flammable Liquid, Corrosive, Organic, N.O.S.							T	
946	Flammable Liquid, Toxic, Corrosive, N.O.S.		F						
947	Flammable Solid, Corrosive, Inorganic, N.O.S.		F						
948	Flammable Solid, Corrosive, Organic, N.O.S.		F						
949	Flammable Solid, Organic, N.O.S.		F						
950	Flammable Solid, Organic, N.O.S.		F						
951	Flammable Solid, Oxidizing, N.O.S.		F						
952	Flammable Solid, Toxic, Inorganic, N.O.S.		F						
953	Flammable Solid, Toxic, Inorganic, N.O.S.		F						
954	Fluenetil							T	
955	Fluoride							T	
956	Fluorine							T	
957	Fluorine, Compressed								G
958	Fluoro 2-Hydroxy Butyric Acid Amid Salt Ester							T	
959	Fluoro,-4,-2-Hydroxybutyric Acid & Salts Esters, Amides							T	
960	Fluoroacetic Acid							T	
961	Fluoroanilines							T	
962	Fluorobenzene		F						
963	Fluoroboric Acid					C			
964	Fluorocobutyric Acid & Salts, Esters Amides							T	
965	Flurophosphoric Acid, Anhydrous					C			
966	Fluorosilic Acid					C			
967	Fluorosilicates, N.O.S.							T	
968	Fluorosulphonic Acid					C			
969	Fluorotoluenes		F						
970	Fluroacetic Acide and Salts Esters and Amides							T	
971	Flurobutyric Acid, -4 and Salts, Esters and Amides							T	
972	Flurocrotonic Acid, -4 and Salts, Esters and Amides							T	
973	Fog-Signals	E							
974	Formaldehyde							T	
975	Formaldehyde Solution					C			
976	Formaledehyde Solution, Flammbile		F						
977	Formatenate Hydrochloride							T	
978	Fuel, Aviation, Turbine Engine		F						
979	Fumaryl Chloride					C			
980	Furaldehydes							T	
981	Furan		F						
982	Furfural							T	
983	Furfuryl Alcohol							T	
984	Furfurylamine		F						
985	FueseL Oil								
986	Fuses	E							
987	Gallium					C			
988	Gallium Trichloride							T	
989	Gas Oil or Disel Fuel Or Heating Oil Light		F						
990	Gas,Refrigerated Liquid,Flammable,N.O.S								G
991	Gas,Refrigerated Liquid, ,N.O.S								G
992	Gas,Refrigerated Liquid,Oxidizing,,N.O.S								G
993	Glycerol Alpha-Monochlorohydrin							T	
994	Glycidaldehyde		F						

995	Glyconitrile (Hydroxyacetonitrile)							T	
996	Guanidine Nitrate			O					
997	Guanyl Nitrosaminoguanylidene Hydrazine,wetted								
998	Guanyl Nitrosaminoguanylidene (Tetrazene),wetted	E							
999	Guanyl1,-1,-4 Nitrosaminogunyl-1 Tetrazene	E							` `
1000	Gun-Cottan	E							
1001	Gunpowder	E							
1002	Hafnium Power,Dry		F						
1003	Helium,Refrigerated Liquid								G
1004	Heptachlor							T	
1005	Heptafiuororopane 9 Refrigerant Gas R 227)								G
1006	Heptanes		F						
1007	Hexa Methyl Terta-oxyacyclononate (conc 75%)							T	
1008	Hexabutrodiphenylamine	E							
1009	Hexachloro Cyclopentadiene							T	
1010	Hexachloroacetone							T	
1011	Hexachloroacetone							T	
1012	Hexachlorobutadiene							T	
1013	Hexachlorodibenzo-P-Dioxin-1,2,3,7,8,9,Hexamethylphosphoramide							T	
1014	Hexachlorophene							T	
1015	Hexadecyltrichlorosilane					C			
1016	Hexadiene		F						
1017	Hexaetthyl Tetraphosphate							T	
1018	Hexafluoropropylene								G
1019	Hexamethyl Phosphproamide							T	
1020	Hexamethyl,-3,3,6,6,9,9-1,2,4,5,-Tetroxacyclononane				R				
1021	Hexamethylene Disocyanate							T	
1022	Hexamethylenediamine Solution							T	
1023	Hexamethylenediamine Solid					C			
1024	Hexamethylenediamine		F						
1025	Hexamethyletramine		F						
1026	Hexamethylphosphoramide							T	
1027	Hexanes		F						
1028	Hexanitrostilbene	E							
1029	Hexanitrostilbene-2,2,4,6,6	E							
1030	Hexanols		F						
1031	Hexavalent Chromium							T	
1032	Hexene		F						
1033	Hexotonal	E							
1034	Hexylltrichlorosilane					C			
1035	Hydrazine		F			C		T	
1036	Hydrazine Nitrate	E							
1037	Hydrazine,Anhydrous					C			`
1038	Hydrazine,Aqueous							T	
1039	Hydrazine,Hydrate or Hydrazine Aqueous Solution							T	
1040	Hydriodic Acid					C			
1041	Hydrobromic Acid					C			
1042	Hydrocarbon Gas Mixture,Compressed,N.O.S								G
1043	Hydrocarbon Gas Mixture,Liquefied,N.O.S								G

1044	Hydrocarbon,Liquid,N.O.S		F						
1045	Hydrochloric Acid					C			
1046	Hydrochloric Acid (Gas)							T	
1047	Hydrochloric Acid,Aqueous Solution (Hydrogen Cyanide Aqueous Solution)							T	
1048	Hydrofluoric Acid							T	
1049	Hydrofluoric Acid and Sulphuric Acid mixture					C			
1050	Hydrogen		F		R				
1051	Hydrogen Bromide,Anhydrous								G
1052	Hydrogen and Methane Mixture,Compressed								G
1053	Hydrogen Bromide							T	
1054	Hydrogen Bromide (Hydrobromic Acid)					C			
1055	Hydrogen Chloride (Liquified Gas)					C			
1056	Hydrogen Chloride, Anhydrous								G
1057	Hydrogen Chloride,refrigerated Liquid								G
1058	Hydrogen Cyanide							T	
1059	Hydrogen Cyanide,Solution in Alcohol							T	
1060	Hydrogen Cyanide,Stablized							T	
1061	Hydrogen Fluoride					C			
1062	Hydrogen Fluoride, Anhydrous					C			
1063	Hydrogen Lodide, Hydrogen								G
1064	Hydrogen Peroxide			O					
1065	Hydrogen Peroxide and Preroxyacetic Acid Mixture			O					
1066	Hydrogen Peroxide, Adeous Solution			O					
1067	Hydrogen Peroxide, Aqueous Solution			O					
1068	Hydrogen Peroxide, ,Stablized OR Hydrozen Peroxide, Adeous Solution,Stabilized			O					
1069	Hydrogen Selenide							T	
1070	Hydrogen Selenide,Anhydrous								G
1071	Hydrogen Sulphide		F						
1072	Hydrogen,Refrigerated Liquid					C			
1073	Hydrogendifluorides,N.O.S.					C			
1074	Hydroquinone							T	
1075	Hydroxylamine Sulphate					C			
1076	Hypochlorite Solution					C			
1077	Hypochlorites,Inorganic,N.O.S			O					
1078	Indane			O					`
1079	Infectious Substance,Affecting Animals							T	
1080	Infectious Substance,Affecting Humans							T	
1081	Infecticide Gas,Flammable,N.O.s							T	
1082	Infecticide Gas,N.O.S								G
1083	Infecticide Gas,Toxic,Flammable,N.O.S								G
084	Infecticide Gas,Toxic,N.O.S								G
1085	Iodine							T	
1086	Iodine Monochloride					C `			
1087	Iodine Pentafluoride			O					
1088	Iodomethylpropanes		F						
1089	Iodopropanes		F						
1090	Iridium Tetrachloride							T	
1091	Iron Pentacarbonil							T	
1092	Isobutane							T	
1093	Isobutane								G

1094	Isobutanol (Isobutyl Alcohal)		F						
1095	Isobutyl Chloride		F						
1096	Isobutyl Acetate		F						
1097	Isobutyl Acrylate,Stabilized		F						
1098	Isobutyl Alcohol							T	
1099	Isobutyl Formate		F						
1100	Isobutyl Isobutyrate		F						
1101	Isobutyl Isocyanate		F						
1102	Isobutyl Methacrylate,Stabilized		F						
1103	Isobutyl Propane		F						
1104	Isobutylene								G
1105	Isobutyraldehyde (Isobutyl Aldehyde)		F						
1106	Isobutyric Acid		F						
1107	Isbutyro Nitrile							T	
1108	Isbutyro Nitrile		F						
1109	Isocyanates,Flammable,Toxic,N.O.S or OIsocynate Solution,Toxic,Flammable ,N.O.S.		F						
1110	Isocyanates,Toxic,N.O.S, ,Flammable N.O.S or Isocyanate Solution,Toxic,Flammable,N.O.S.							T	
1111	Isocyanates,Toxic N.O.S or Isocynate Solution, Toxic,N.O.S							T	
1112	Isocyanatobenzotriffluorides							T	
1113	Isocyanic Acid 3,4-Dichlorophenyl Ester							T	
1114	Isodrin							T	
1115	Isofluorophosphate							T	
1116	Isoheptene		F						
1117	Isohexene		F						
1118	Isooctene		F						
1119	Isopentenes		F						
1120	Isophorone Diisocyanate							T	
1121	Isophorone Disocyanate							T	
1122	Isophoronediamine					C			
1123	Isopropenyl Acetate		F						
1124	Isopropenylbenzene		F						
1125	Isopropl Formate							T	
1126	Isopropyl 2- Chloroproopionate		F						
1127	Isopropyl Acetate		F						
1128	Isopropyl Acid Phosphate					C			
1129	Isopropyl Alcohol		F						
1130	Isopropyl Butyrate		F						
1131	Isopropyl Chloracacetate					C			
1132	Isopropyl Chlorocarbonate					C			
1133	Isopropyl Choloroformate							T	
1134	Isopropyl Ether		F						
1135	Isopropyl Isobutyrate		F						
1136	Isopropyl Isocyanate		F						
1137	Isopropyl Methyl Pyrazolyl Dimethyl Carbonate							T	
1138	Isopropyl Propionate		F						
1139	Isopropylamine		F			C			
1140	Isopropylbenzene		F						
1141	Isoprpanle (Isoprophl Alcohol)		F						
1142	Isosorbide		F						
1143	Isosorbide-5-Mononitrate		F						
1144	Juglone (5-Hydroxynapthalane-1,4-Dione)							T	

1145	Juglone (5-Hydroxy naphthalene Dione)							T	
1146	Kerosene		F						
1147	Ketene							T	
1148	Ketenes, Liquid,N.O.S		F						
1149	Krypton, Regrigerated Liquid								G
1150	Lactonitrile							T	
1151	Lead (Inorganic Fumes & Dusts)							T	
1152	Lead 2,4,6-Trinitrosorcinoxide (Lead Styphnate)	E							
1153	Lead Acetate							T	
1154	Lead Arsentes							T	
1155	Lead Arsenite							T	
1156	Lead Arsenites							T	
1157	Lead Azide							T	
1158	Lead Azide,Wetted	E							
1159	Lead Compound,Soluble,N.O.S.							T	
1160	Lead Cyanide							T	
1161	Lead Dioxide			O					
1162	Lead Nitrate			O					
1163	Lead Perchlorate			O					
1164	Lead Phosphite Diabasiac		F						
1165	Lead Styphanate (Lead trinitroresorcinate) wetted	E							
1166	Lead Sulphate					C			
1167	lindane							T	
1168	Liquefied Gas flammable.N.O.S								G
1169	Liquefied Gas,,N.O.S								G
1170	Liquefied Gas,Oxidizing,N.O.S								G
1171	Liquefied Gas,Toxic Flammable,N.O.S								G
1172	Liquefied Gas,Toxic N.O.S.								G
1173	Liquefied Petrileum Gas,		F						

1174	Liquefied Gas,Toxic,Corrosive,N.o.S								G
1175	Liquefied Gas,Toxic,Flammable,Corrosive N.O.S								G
1176	Liquefied Gas,Toxic,Oxidizing, Corrosive N.O.S								G `
1177	Liquefied Gas,Toxic,Oxidizing,N.O.S.								G
1178	Lithium		F						
1179	Lithium Alkyis		F						
1180	Lithium Aiuminium Hydride		F						
1181	Lithium Aiuminium Hydride,Ethereal		F						
1182	Lithium Borohydride		F						
1183	Lithium ferrosilicon		F						
1184	Lithium Hydride		F						
1185	Lithium Hydride,Fused Solid		F						
1186	Lithium Hydroxide Monohydrate					C			
1187	Lithium Hydroxide Solution					C			
1188	Lithium Hypochlorite,Dry or Lithium Hypochlorite Mixture			O					
1189	Lithium Nitrate			O					
1190	Lithium Nitrate		F						
1191	Lithium Peroxide			O					
1192	Lithium Silicon		F						
1193	London Purple							T	
1194	Magnesium Alkyls		F						
1195	Magnesium Aluminium Phosphide		F						
1196	Magnesium Arsenate							T	
1197	Magnesium Bromate			O					
1198	Magnesium Chlorate			O					
1199	Magnesium Diamide		F						
1200	Magnesium Dipheny		F						
1201	Magnesium Fluorosilicate							T	
1202	Magnesium Granules,coated		F						
1203	Magnesium Hydride		F						
1204	Magnesium Nitrate			O					
1205	Magnesium or Magnesium Alloys		F						
1206	Magnesium Perchlorate			O					
1207	Magnesium Peroxide			O					
1208	Magnesium Phosphide		F						
1209	Magnesium Powder or Magnesium Alloys Powder		F						
1210	Magnesium Powder or Ribbon			O					
1211	Magnesium Silicide		F						
1212	Magnesium Anhydride					C			
1213	Maleil Anhydride							T	
1214	Malononitrile							T	
1215	Maltel Anhydride							T	
1216	Managanese and Compounds							T	
1217	Maneb or Maneb Preparation		F						
1218	Maneb, Stebilized or Maneb		F						

	Preparation,Stablized								
1219	Mangnese Nitrate			O					
1220	Mangnese Resinate		F						
1221	Magnese Hexanitrate (Nitromanite) Wetted					C			
1222	Mannitol Hexanitrate (Nitromannite)Wetted	E							
1223	Matches,Fusee		F						
1224	Match,Saftey		F						
1225	Matches,strike any Where		F						
1226	Matches,Wes Vesta		F						
1227	Mechlor Ethamine							T	
1228	Medicine,Liquid,Flammable,Toxic,N.O.S.		F						
1229	Medicine,Liquid, ,Toxic,N.O.S.							T	
1230	Medicine,Liquid, ,Toxic,N.O.S.							T	
1231	Mephospholan							T	
1232	Mercaptans,Liquid,Flammable,N.O.S. of Mercaptan Mixture,Liquid,Flammable,N.O.S.		F						
1233	Mercaptans,Liquid,Flammable,Toxic,N.O.S. or Mercaptan Mixture		F						
1234	Mercaptans,Liquid,Flammable,Toxic,N.O.S. or Mercaptan Mixture , Liquid,toxic,Flammable,N.O.S.							T	
1235	Mercapto Benzothiazole							T	
1236	Mercuric Acetate							T	
1237	Mercuric Arsenate							T	
1238	Mercuric Chloride							T	
1239	Mercuric Nitrate							T	
1240	Mercuric Oxide							T	
1241	Mercuric Potassium Cyanide							T	
1242	Mercurous Nitrate							T	
1243	Mercury					C			
1244	Mercury Acetate							T	
1245	Mercury Alky			O				T	
1246	Mercury Ammonium Chloride							T	
1247	Mercury Besed Pesticide,Liquid,Flammable Toxic		F						
1248	Mercury Based Pesticide,Liquid,Toxic							T	
1249	Mercury Based Pesticide,Liquid,Toxic,Flammable							T	
1250	Mercury Based Pesticide,Solid,Toxic							T	
1251	Mercury Benzoate							T	
1252	Mercury Bromodes							T	
1253	Mercury Compound,Liquid,N.O.S							T	
1254	Mercury Compound,Solid,N.O.S							T	
1255	Mercury Cyanide							T	
1256	Mercury Fulminate	E							
1257	Mercury Gluconate							T	
1258	Mercury Iodide							T	
1259	Mercury Methy							T	
1260	Mercury Methy Chloride							T	`

1261	Mercury Nucleate							T	
1262	Mercury Oleate							T	
1263	Mercury Oxide							T	
1264	Mercury Oxycyaniude,Desensitised							T	
1265	Mercury Potassium Iodide							T	
1266	Mercury Salicylate							T	
1267	Mercury sulphate							T	
1268	Mercury Thiocyanate							T	
1269	Metal Alkyl Haldies, Water Reactive,N.O.S or Metal,Aryl Haldies,Water Reactive,N.O.S.		F						
1270	Metal Alkyl Hydrides, Water Reactive,N.O.S or Metal,Aryl Hydrides,Water Reactive,N.O.S.		F						
1271	Metal Alkyl Haldies, Water Reactive,N.O.S or Metal,Aryl , Water Reactive,N.O.S.		F						
1272	Metal carbonyls,N.O.S.							T	
1273	Metal Catalyst,Dry		F						
1274	Metal Catalyst,Wetted		F						
1275	Metal Hydrides,Flammable,N.O.S		F						
1276	Metal Hydrides,waterReactive, N.O.S.		F						
1277	Metal Powder Flammable,N.O.S		F						
1278	Metal Powder,Self Heating,N.O.S.		F						
1279	Metal Salts of oranic Compounds,Flammable,M N.O.S		F						
1280	Metal Dehyde		F						
1281	Metallic Substance,water Reactive,N.O.S		F						
1282	Methaacrolein Diacetate		F						
1283	Methacrylaldehyde,Stabilized		F						
1284	Methacrylic Acid,Stablized					C			
1285	Methacrylic Anhydride					C			
1286	Methacrylonitrile					C			
1287	Methacrylonitril, Stabilized		F						
1288	Methacrycol Chloride							T	
1289	Methacryloyl Oxyethyl Isocyanate							T	
1290	Methallyl Alcohol		F						
1291	Methaamidophos							T	
1292	Methane								G
1293	Mathane, compressed or Natural gas Compressed								G
1294	Methane, regrigirated Liquid or natural Gas, refrigerated Liquid								G
1295	Methanesulphonyl chloride							T	
1296	Methanesulphonyl Fluoride							T	
1297	Methanidophos							T	
1298	Methanol		F						
1299	Methanthiol							T	
1300	Methidathion							T	
1301	Methtiocarb							T	
1302	Methonyl							T	

1303	Methoxy Ethanol							T	
1304	Methoxy Ethanol(@-Methyl Cellosolve)							T	
1305	Methoxyethyl Mercuric Acetate							T	
1306	Methoxy methyl Isocyanate		F						
1307	Methyarylol Chloride							T	
1308	Methyl 2- Chloroacrylate							T	
1309	Methyl 2-Chloroproplonate		F						
1310	Methyl Acetate		F						
1311	Methyl Acrylate		F					T	
1312	Methyl Acrylate, Stabilized		F						
1313	Methyl alcohol		F						
1314	Methyl Amine		F						
1315	Methyl Amylketone		F						
1316	Methyl Bromide					C			
1317	Methyl Bromide(Bromomethane)								G
1318	Methyl Bromide and Ethylene Dibromide Mixture, Liquid							T	
1319	Methyl Bromoacatate							T	
1320	Methyl Butyrate		F						
1321	Methyl Chloride		F						
1322	Methyl Chloride and Methylene Chloride Mixture								G
1323	Methyl chloroacetate							T	
1324	Methyl Chloroform		F					T	
1325	Methyl Chloroformate							T	
1326	Methyl Chloromethyl Ether							T	
1327	Methyl Cyclohexane		F						
1328	Methyl Cyclohexane		F						
1329	Methyl Dichloroacetate							T	
1330	Methyl Disulphide							T	
1331	Methyl Ethyl Ketone Petroxide				R				
1332	Methyl Ethyl Ketone Petroxide(Conc 60%)							T	
1333	Methyl Formate		F						
1334	Methyl Gluoride (Refrigerant Gas R 41)								G
1335	Methyl Hydrazine			O					
1336	Methyl iodide							T	
1337	Methyl Isobutyl Carbinol		F						
1338	Methyl Isobutyl Ketone		F						
1339	Methyl Isobutyl Ketone Peroxide				R				
1340	Methyl Isocyanate		F					T	
1341	Methyl Isopropenyl Ketone,Satbilized		F						
1342	Methyl Isothiocynate						T		
1343	Methyl Isovalerate		F						
1344	Methyl magnesium Bromide in Ethyl Ether		F						
1345	Methyl Mercuric Dicyanamide						T		
1346	Methyl Mercaptan								G
1347	Methyl Methacrylate		F						
1348	Methyl Methacrylate Monomer , Stabilized		F						

1349	Methyl -N,2,4,6,6, Tetranitroaniline							T	
1350	Methyl Nitrate								G
1351	Methyl Orthosilicate							T	
1352	Methyl Parathion						T	T	
1353	Methyl Phencepton							T	
1354	Methyl Phoshonic Dichloride							T	
1355	Methyl Phosphonic Dichloride								
1356	Methyl Propionate		F						
1357	Methyl Propyl Ether		F						
1358	Methyl propyl Ketone		F						
1359	Methyl Styrene		F					T	
1360	Methyl tert-Butyl Ether		F						
Sr. No.	Name	E	F	O	R	C	Ra	T	G
1361	Methyl Thiocyanate							T	
1362	Methyl Trichloroacetate							T	
1363	Methyl Trichlorosilane							T	
1364	Methyl Vinyl Ketone							T	
1365	Methyl Cinyl Ketone, Stabilized							T	
1366	Methylallyl Chloride		F						
1367	Methylamine, Anhydrous								G
1368	Methylamyl Acetate		F						
1369	Methylchlorosilane								G
1370	Methylcyclohexane		F						
1371	Methylcyclohexano,S		F						
1372	Methylcyclohexanone		F						
1373	Methylcyclopentane		F						
1374	Methyldichlorosilane		F						
1375	Methylene BIS (2-Chloroaniline)							T	
1376	Methylene Chloride							T	
1377	Methylenebis, -4,4 (2,-Chloroaniline)							T	
1378	Methylhydrazine							T	
1379	Methylisobutyl Ketone							T	
1380	Methylpentadiene		F						
1381	Methylphenyldichlorosilane					C			
1382	Methyltetrahydrofuran		F						
1383	Methyltrichlorosilane		F						
1384	Methyol Isodyanate		F					T	
1385	Mevinphos							T	
1386	Molybdenum and compounds							T	
1387	Molybdenum Pentachloride					C			
1388	Molybdenum Powder							T	
1389	Monocrotophos							T	
1390	Morpholine		F			C			
1391	Motor Fuel Anti-Knock Mixture							T	
1392	Motor Spirit or Gasoline or Petrol		F						
1393	Mustard Gas							T	
1394	N,N-Diethylethylenediamine					C			
1395	N, N-Dimethylformamide		F						

1396	N, N-Dimethylaniline							T	
1397	N-Aminoethylpiperazine					C			
1398	Naphtha	E	F						
1399	Naphtha Solvent	E	F						
1400	Nephthalene, Crude or Naphthalene, Refind		F						
1401	Naphthalene, Molten		F						
1402	Naphthyl Amine							T	
1403	Naphthylurea							T	
1404	Naptha (Coal Tar)		F						
1405	Napthalene							T	
1406	Napthylamine, -2							T	
1407	N-Butyl Acetate							T	
1408	N-Butyl Alcohol		F					T	
1409	N-Butyl Chloroformate							T	
1410	N-Butyl Formate		F						
1411	N-Butyl Isocyanate							T	
1412	N-Butyl Methacrylate, Stabilized		F						
1413	N-Butylaniline							T	
1414	N-Butylimidazole							T	
1415	N-Decane		F						
1416	N-Diethylaniline							T	
1417	N-Dinitrobenzene							T	
1418	Neon, Refrigerated Liquid								G
1419	N-Ethylaniline							T	
1420	N-Etthylbenzyltoluidines Liquid/Solid							T	
1421	N-Ethyle-N-Benzylaniline							T	
1422	N- Ethyltoluidines							T	
1423	N-Heptaldehyde		F						
1424	N-Heptene		F						
1425	N-Hexane		F						
1426	Nickel and Compounds							T	
1427	Nickel Carbonyl/Nickel Tetracarbonyl							T	
1428	Nickel Cyanide							T	
1429	Nickel Nitrate			O					
1430	Nickel Nitrite			O					
1431	Nickel Powder							T	
1432	Nickel Tetracarbonyl		F					T	
1433	Nicotine							T	
1434	Nicotine compound,LiquiD,NOS or Nicotine Preparation,Liquid, NOS							T	
1435	Nicotine compound, solid, NOS or Nicotine Preparation, Solid, NOS							T	
1436	Nicotine Hydrochloride, Liquid or Nicotine Hydrochloride Solution							T	
1437	Nicotine Hydrochloride, solid							T	
1438	Nicotine Salicylate							T	
1439	Nicotine sulphate							T	
1440	Nicotine sulphate ,Solid							T	
1441	Nicotine sulphate,Solution							T	

1442	Nicotine Tartrate							T	
1443	Nitric Oxide, Compressed								G
1444	Nitrates,Inorganic ,Aqueous solution, NOS			O					
1445	Nitrating Inorganic NOS			O					
1446	Nitrating Acid Mixture,					C			
1447	Nitric acid Mixture, spent					C			
1448	Nitric acid					C			
1449	Nitric Acid and Dinitrogen Tetroxide Mixture (Nitric oxide and Nitrogen Dioxide Mixture)								G
1450	Nitric Acid,Red fumming					C			
1451	Nitric Oxide							T	
1452	Nitriles,Flammable,Toxic,N.O.S		F						
1453	Nitriles,Toxic, Flammable, N.O.S							T	
1454	Nitriles,toxic,NOS							T	
1455	Nitriles, In organic,Aqueous solution, NOS			O					
1456	Nitriles, In organic,NOS			O					
1457	Nitro urea	E							
1458	Nitroaniline –O							T	
1459	Nitroaniline-P							T	
1460	Nitroanilines							T	G
1461	Nitroanisoles,Liquid/Solid							T	
1462	Nitrobenzene							T	
1463	Nitrobenzenesulphonic Acid					C			
1464	Nitrovenzotrifluorides							T	
1465	Nitrobromobenzenes,Liquid							T	
1466	Nitrocellulose	E							
1467	Nitrocellulose Membrane Filters		F						
1468	Nitrocellulose Mixture with or without Plasticizer,with or without Pigment		F						
1469	Nitrocellulose solution, Flammable		F						
1470	Nitrocellulose with alcohol		F						
1471	Nitrocellulose with water		F						
1472	Nitrocellulose (Dry)	E							
1473	Nitrochlorobenzene							T	
1474	Nitrochlorobenzene-P							T	
1475	Nitrocresols							T	
1476	Nitrocyclohexane							T	
1477	Nitroethane		F					T	
1478	Nitrogen								G
1479	Nitrogen Dioxide							T	
1480	Nitrogen oxide							T	G
1481	Nitrogen oxides							T	
1482	Nitrogen Trifluoride							T	G
1483	Nitrogen Trifluoride, Compressed								G
1484	Nitrogen Trioxideo								G
1485	Nitrogen,Refrigerated liquid								G
1486	Nitroglycerin Mixture, Desensitized solid, NOS		F						

1487	Nitroglycerine Mixture Desensitized Liquid,Flammable, NOS		F						
1488	Nitroglycerine Mixture Desensitized Liquid, , NOS		F						
1489	Nitroglycerine Solution in Alcohol	E							
1490	Nitroglycerine Solution in Alcohol		F						
1491	Nitroglycerine	E							
1492	Nitroguanidine (Picrite)		F						
1493	Nitroglycerin solution in Alcohol		F						
1494	Nitrohydrochloric Acid					C			
1495	Nitromethane		F						
1496	Nitronaphthalene		F						
1497	Nitrophenel-P							T	
1498	Nitrophenels							T	
1499	Nitropropane-1		F						
1500	Nitropropane-2		F						
1501	Nitropropanes		F						
1502	Nitroso Dimethyal Amine							T	
1503	Nitrostarch	E							
1504	Nitrostarch wetted		F						
1505	Nitrosylchloride								G
1506	Nitrosylsulphuric Acid Liquid/Solid					C			
1507	Nitrotoluene							T	
1508	Nitrotoluenes,Liquid							T	
1509	Nitrotoluidines (Mono)							T	
1510	Nitrous Oxide								G
1511	Nitrous Oxide, Refrigerated Liquid								G
1512	Nitroxylenes, Liquid							T	
1513	N-Methylaniline							T	
1514	N-Methylbutylamine		F						
1515	N-Methyl-N,2,4,6-Tetranitroaniline	E							
1516	Nonanes		F						
1517	Nonyltrichorosilane					C			
1518	n-Propanol (Propylb Alcohol,Normal)		F						
1519	n-Propyl Acetate		F						
1520	n-Propyl Chloroformate							T	
1521	n-Propyl Isocynate							T	
1522	n-Propyl Nitrate		F						
1523	n-Propylbenzene		F						
1524	Octadecyltrichlorosilane					C			
1525	Octadiene		F						
1526	Octafluorobt (Refrigerant Gas R 218)								G
1527	Octafluorobut-2-Ene (Refrigerant Gas R 1328)								G
1528	Octafluorocyclobutane (Refrigerant Gas Rc 318)								G
1529	Octanes		F						
1530	Octyl Aldehydes		F						
1531	Octyltrichlorosilane					C			
1532	O-Dichlorobenzene							T	

1533	Oleum					C			
1534	O-Nitro Toluene	E							
1535	OO Diethyl S Eethyl Suph.Methyl Phos							T	
1536	OO Diethyl S Ethylsulphinylmethyl Phosphorothioate							T	
1537	OO Diethyl S Ethylthiomethyl Phosphorothioate							T	
1538	OO Diethyl S Isopropylthiomethyl Phosphorothioate							T	
1539	Organic Peroxide Type B, Solid			O					
1540	Organic Peroxide Type B,Liquid,Temperature controlled			O					
1541	Organic Peroxide Type B, Solid			O					
1542	Organic Peroxide Type B, Solid, Temperature controlled			O					
1543	Organic Peroxide Type C, liquid			O					
1544	Organic Peroxide Type C, liquid, Temperature controlled			O					
1545	Organic Peroxide Type C, Solid			O					
1546	Organic Peroxide Type C, Solid, Temperature controlled			O					
1547	Organic Peroxide Type D, liquid			O					
1548	Organic Peroxide Type D,Liquid, Temperature controlled			O					
1549	Organic Peroxide Type D, Solid			O					
1550	Organic Peroxide Type D,Solid, Temperature controlled			O					
1551	Organic Peroxide Type E, Liquid			O					
1552	Organic Peroxide Type E,Liquid, Temperature controlled			O					
1553	Organic Peroxide Type E, solid			O					
1554	Organic Peroxide Type E,Solid, Temperature controlled			O					
1555	Organic Peroxide Type F, Liquid			O					
1556	Organic Peroxide Type F,Liquid, Temperature controlled			O					
1557	Organic Peroxide Type F, solid			O					
1558	Organic Peroxide Type F,Solid, Temperature controlled			O					
1559	Organic Pigments, self-Heating		F						
1560	Organo Rhodium Complex							T	
1561	Organoarsenic Compound,NOS							T	
1562	Organochlorine Pesticide,Liquid,Flammable, toxic		F						
1563	Organochlorine Pesticide,Liquid,Flammable, toxic							T	
1564	Organochlorine Pesticide,Liquid,Toxic, Flammable							T	
1565	Organochlorine Pesticide, solid, Flammable, Toxic							T	

1566	Organometallic Compound or compound solution or compound Dispersion,water-Reactive,Flammable, NOS		F						
1567	Orgnamometallic Compound, Toxic.NOS							T	
1568	Organophosphorus compound, toxic, flammable,NOS							T	
1569	Organophosphorus compound,toxic NOS							T	
1570	Organophosphorus Pesticide,Liquid,Flammable, toxic		F						
1571	Organophosophrus Pesticide,solid,Flammable, toxic							T	
1572	Organophosophrus Pesticide,liquid, toxic							T	
1573	Organophosophrus Pesticide,liquid, Toxic,Flammable							T	
1574	Organotin compound liquid,NOS							T	
1575	Orgnotin compound Solid,NOS							T	
1576	Organotin Pesticide, Liquid,flammable, Toxic		F						
1577	Organotin Pesticide, Liquid, Toxic							T	
1578	Organotin Pesticide, Liquid, Toxic ,flammable							T	
1579	Organotin Pesticide, Solid, Toxic							T	
1580	Orotic Acid							T	
1581	Osmium Tetroxide							T	
1582	O-Toludine							T	
1583	Oxetane, 3,3-Bis (Chloromethyl)							T	
1584	Oxidiphenoxarsine							T	
1585	Oxidizing Liquid, Corrosive, N.O. S.			O					
1586	Oxidizing, Liquid, N.O.S.			O					
1587	Oxidizing, Liquid, Toxic, N.O.S.			O					
1588	Oxidizing Solid, Corrosive, N.O.S.			O					
1589	Oxidizing Solid, Flammable N.O.S.			O					
1590	Oxidizing Solid, N.O.S.			O					
1591	Oxidizing Solid, Self-Heating, N.O.S.			O					
1592	Oxidizing Solid, Toxzic N.O.S.			O					
1593	Oxidizing Solid, Water-Reactive, N.O.S.			O					
1594	Oxydisulfoton							T	
1595	Oxygen (Liquid)			O					G
1596	Oxygen Difluoride							T	
1597	Oxygen Difluoride Compressed								G
1598	Oxygen Generator, Chemical			O					
1599	Oxygen (Liquid)			O					
1600	O-Xylene		F			C			
1601	Ozone			O	R			T	
1602	Pait or Paint Related Material					C			
1603	Paraffin		F						
1604	Paraformaldehyde		F					T	

1605	Paraoxon (Diethyl 4 Nitrophenyl Phosphate							T	
1606	Paraquate Methosulphate							T	
1607	Parathion							T	
1608	Parathion Methyl							T	
1609	Paris Green							T	
1610	Paraxon (Diethyl 4-Nitrophenyl Phosphate)							T	
1611	Pensulfothion							T	
1612	Penta Borane		F					T	
1613	Penta Chloro Ethane							T	
1614	Penta Chloro Phenol							T	
1615	Pentaborane							T	
1616	Pentabromodiphenyl Oxide							T	
1617	Pentabromophenol							T	
1618	Pentachloro Naphthalene							T	
1619	Pentachloro Napthalene							T	
1620	Pentachloroethane							T	
1621	Pentachlorophenol							T	
1621	Pentachlorophenol							T	
1622	Pentadecyl-Amine					C			
1623	Pentaerythaiotol Tetranitrate							T	
1624	Pentaerythrite Tentranitrate (Pentaerythritol Tetranitrate, Petn) Wetted	E							
1625	Pentaerythrite Tentranitrate Mixture, Desensitised, Solid, N.O.S.		F						
1626	Pentaerythritol Tetranitrate	E						T	
1627	Pentafluoroethane (Refrigerant Gas R 125)								G
1628	Pentaghlorophenol							T	
1629	Pentamethlheptane		F						
1630	Pentane							T	
1631	Pentane-2, 4-Dione		F						
1632	Pentanes, Liquid		F						
1633	Pentanone, 2, 4-Methyl							T	
1634	Peracetic Acid				R	C			
1635	Peradetic Acid							T	
1636	Perchlorates, Inorganic, Aqueous Solution, N.O.S.			O					
1637	Perchlorates, Inorganic, N.O.S.			O					
1638	Perchloric Acid					C			
1639	Perchloroethylene							T	
1640	Perchloromethyl Mercptan							T	
1641	Perchloryl Fluoride								G
1642	Percussion Caps	E							
1643	Perfluoro (Ethyl Vinyl Ether)								G
1644	Perfluoro (Methyl Vinyl Ether)								G
1645	Permanganates, Inorganic, Aqueous, Solution, N.O.S.			O					
1646	Permanganates, Inorganic, N.O.S.			O					
1647	Peroxides, Inorganic, N.O.S.			O					

1648	Peroxyacetic Acid			O					
1649	Persulphates, Inorganic, Aqueous Solution, N.O.S.							T	
1650	Persulphates, Inorganic, N.O.S.			O					
1651	Pesticide, Liquid, Toxic, Flammable, N.O.S.							T	
1652	Pesticide, Liquid, Toxic, Flammable, N.O.S.		F						
1653	Pesticide, Liquid, Toxic, N.O.S.							T	
1654	Pesticide, Solid, Toxic, N.O.S.							T	
1655	Petanone, 2-4,-Methyl		F					T	
1656	Petroleum Crude Oil		F						
1657	Petroleum Gases, Liquefied								G
1658	Phenacyl Bromide							T	
1659	Phenetidines							T	
1660	Phenol							T	
1661	Phenol Solution							T	
1662	Phenol, Molten							T	
1663	Phenol, Solid							T	
1664	Phenol, 2,2-Thiobis (4Chloro 6 Methyl Phenol)							T	
1665	Phenol, 2,2-Thiobis (4,6-Dichloro)							T	
1666	Phenol, 3-(1-Metholethyl)-Methylcarbonate							T	
1667	Phenolsulphonic Acid, Liquid					C			
1668	Phenoxyacetic Acid Deriavative Pesticide, Liquid, Flammable, Toxic		F						
1669	Phenoxyacetic Acid Deriavative Pesticide, Liquid, Flammable, Toxic							T	
1670	Phenoxyactic Acid Deriavative Pesticide, Liquid, Toxic, Flammable							T	
1671	Phenoxyacetic Acit Deriavative Pesicide, Solid, Toxic						T		
1672	Phenyl Chloroformate							T	
1673	Phenyl Glycidal Ether							T	
1674	Phenyl Hydraine Hydrochloride							T	
1675	Phenyl Isocyanate							T	
1676	Phenyl Mercury Acetate							T	
1677	Phenyl Silatrane							T	
1678	Phenyl Thiourea							T	
1679	Phenylacetonitrile, Liquid							T	
1680	Phenylacetyl Chloride					C			
1681	Phenylcarbylamine Chloride							T	
1682	Phenylene P-Diamine							T	
1683	Phenylenediamines							T	
1684	Phenylhydrazine							T	
1685	Phenylmercuric Acetate							T	
1686	Phenylmercuric Compound, N.O.S.							T	
1687	Phenylmercuric Hydroxide							T	
1688	Phenylmercuric Nitrate							T	
1689	Phenylmercury Acetate							T	
1690	Phenylphosphorus Dichloride					C			
1691	Pheylphosporus Thiodichloride					C			

1692	Phenyltrichlorosilane					C			
1693	Phorate							T	
1694	Phorothioc Acid, OO Dimethyl S-(2-Methyl)							T	
1695	Phosacetim							T	
1696	Phosalone							T	
1697	Phosaoetin							T	
1698	Phosazetin							T	
1699	Phosfolan							T	
1700	Phosgene								G
1701	Phosgene (Carbonyl Chloride)		F					T	
1702	Phosmet							T	
1703	Phosphamidon							T	
1704	Phosphine								G
1705	Phosphine (Hydrogen Phosphide)		F					T	
1706	Phosphoric Acid			O		C			
1707	Phosphoric Acid & Esters					C		T	
1708	Phosphoric Acid Dimethyl (4-Methl Thio) Phenyl							T	
1709	Phosphoric Acid, Bromoethyl Bromo (2,2-Dimethylpropyl) Bromoethyl Ester							T	
1710	Phosphoric Acid, Liquid/Solid					C			
1711	Phosphorothioc Ethyl-Methyl Ester					C			
1712	Phosphorothioic Acid, Methyl-Ethyl Ester					C			
1713	Phosphorothioic Acid Methyl (Ester)					C			
1714	Phosphorous		F						
1715	Phosphorous Pentaxide		F	O					
1716	Phosphorous and Compounds		F					T	
1717	Phosphorous Oxychloride							T	
1718	Phosphorous Penta Chloride							T	
1719	Phosphorous Trichloride							T	
1720	Phosphorus Acid					C			
1721	Phosphorus Heptasulphide		F						
1722	Phosphorus Oxybromide					C			
1723	Phosphorus Oxybromide, Molten					C			
1724	Phosphorus Oxychloride					C			
1725	Phosphorus Pentabromode					C			
1726	Phosphorus Pentachloride					C			
1727	Phosphorus Pentafluoride, Compressed								G
1728	Hosphorus Pentasulphide		F						
1729	Phosphorus Pentoxide					C			
1730	Phosphorus Sesquisulphide		F						
1731	Phosphorus Tribromide					C			
1732	Phosphorus Trichloride							T	
1733	Phosphorus Trioxide					C			
1734	Phosphorus Trisulphide		F						
1735	Phosphorus, Amosphous		F						
1736	Phosphorus, White or Yellow, Dry or Under Water or in Solution		F						
1737	Phosphorus, White, Molten		F						

1738	Phthalic Anhydride					C		T	
1739	Phylloquinone							T	
1740	Physostignine							T	
1741	Physostignine Salicylate (1:1)							T	
1742	Picolines		F						
1743	Picric Acid (2,4,60Trinitrophenol)	E						T	
1744	Pine Oil		F						
1745	Piperaxine					C			
1746	Piperdine							T	
1747	Piperidine					C			
1748	Plastics, Nitrocellulose-Based, Self-Heating, N.O.S.		F						
1749	Platinous Chloride							T	
1750	Platinum Tetrachloride							T	
1751	P-Nitrophenol							T	
1752	P-Nitrosodimethylaniline		F						
1753	Polybrominated Biphenyls							T	
1754	Polychlorinated Biphenyls							T	
1755	Polyester Resin Kit		F						
1756	Polyhalogenated Biphenyls, Liquid or Polyhalogenated Terphenyls, Liquid							T	
1757	Polymeric Beads, Expandable		F						
1758	Potassium		F						
1759	Potassium Nitride					C			
1760	Potassium Peroxide		F			C			
1761	Potassium Silver Cyanide							T	
1762	Potassium Arsenate							T	
1763	Potassium Arsenite							T	
1764	Potassium Bromate			O					
1765	Potassium Chlorate			O					
1766	Potassium Chlorate, Aqueous Solution			O					
1767	Potassium Cuprocyanide							T	
1768	Potassium Cyanide							T	
1769	Potassium Dithionite (Potassium Hydrosulphite)		F						
1770	Potassium Fluoride							T	
1771	Potassium Fluoroacetate							T	
1772	Potassium Fluorosilicate							T	
1773	Potassium Hydrogen Sulphate					C			
1774	Potassium Hydrogendifluoride					C			
1775	Potassium Hydroxide					C			
1776	Potassium Hydroxide, Solid					C			
1777	Potassium Hydroxide, Solution					C			
1778	Potassium Metavanadate							T	
1779	Potassium Monoxide					C			
1780	Potassium Nitrate			O					
1781	Potassium Nitrate and Sodium Nitrite Mixture			O					
1782	Potassium Nitride			O		C			
1783	Potassium Nitrite			O					

1784	Potassium Perchlorate			O					
1785	Potassium Permanganae			O					
1786	Potassium Peroxide			O					
1787	Potassium Persulphate			O					
1788	Potassium Phosphide		F						
1789	Potassium Sulphide, Anhydrous or Potassium Sulphide		F						
1790	Potassium Sulphide, Hydrated					C			
1791	Potassium Superoxide			O					
1792	Pottasium Arsenite							T	
1793	Powdered Metals and Mixtures							T	
1794	Promurit, (1,(3,4-Dichlorophenyl)-3 Triazenethiocarboxamide)							T	
1795	Propadiene, Stabilized								G
1796	Propane								G
1797	Propanesultone-1,3							T	
1798	Propanesultone-1,3		F						
1799	Propargyl Alcohol							T	
1800	Propargyl Bromide							T	
1801	Propen-1, -2-Chloro-1, 3. diol-Diacetate							T	
1802	Propen-2-Chloro 1,3-Diou Diou Diacetate							T	
1803	Prophyl Alcohol		F						
1804	Prophylene Oxide				R				
1805	Propiolactone Beta				R				
1806	Propionic Acid					C			
1807	Propionic Anhydride					C			
1808	Propionitrile		F					T	
1809	Propionitrile, 3-Chloro							T	
1810	Propionyl Chloride		F						
1811	Propiophenone, 4-Amino							T	
1812	Propyl Acetate-N		F						
1813	Propyl Chloride		F						
1814	Propyl Chloroformate							T	
1815	Propyl Formates		F						
1816	Propylamine		F						
1817	Propylene								G
1818	Propylene Chlorohydrin							T	
1819	Propylene Dichloride							T	
1820	Propylene Glycol, Allyether							T	
1821	Propylene Oxide		F						
1822	Propylene Tetramer		F						
1823	Propyleneamine							T	
1824	Propyleneimine, Stabilized		F						
1825	Propyltrichlorosilane					C			
1826	Plassium Borohydride		F						
1827	Puinone							T	
1828	Pyrazoxon							T	
1829	Pyrene							T	
1830	Pyrethroid Pesticide, Liquid, Flammable, Toxic		F						

1831	Pyrethroid Pesticide, Liquid, Toxic							T	
1832	Pyrethroid Pesticide, Liquid, Toxic, Flammable							T	
1833	Pyrethroid Pesticide, Solid, Toxic							T	
1834	Pyridine		F					T	
1835	Pyridine, 2-Methyl-3-Vinyl							T	
1836	Pyridine, 4-Nitro 1-Oxide			O				T	
1837	Pyriminil							T	
1838	Pyrophoric Liquid, Inorganic, N.O.S.		F						
1839	Pyrophoric Liquid, Organic, N.O.S.		F						
1840	Pyrophoric Metal, N.O.S. or Pyrophoric Alloy, N.O.S.		F						
1841	Pyrophoric Organometallic Compound, Water-Reactive, N.O.S. Liquid		F						
1842	Pyrophoric Solid, Inorganic, N.O.S.		F						
1843	Pyrophoric Solic, Organic, N.O.S.		F						
1844	Pyrosulphuryl Chloride					C			
1845	Pyrrolidine							T	
1846	Quinaliphos							T	
1847	Quinoline							T	
1848	Quinone							T	
1849	Radioactive Material, Uranium Hexafluoride						Ra		
1850	Radioactive Material, Uranium Hexafluoride, Fissile						Ra		
1851	Rare Gases and Nitrogen Mixture, Compressed								G
1852	Rare Gases and Oxygen Mixture, Compressed								G
1853	Rare Gases Mixture, Compressed								G
1854	Receptacles, Small, Containing Gas (Gas Cartridges)								G
1855	Refrigerant Gas R 404A								G
1856	Refrigerant Gas R 407A								G
1857	Refrigerant Gas R 407B								G
1858	Refrigerant Gas R 407C								G
1859	Refrigerating Machines								G
1860	Resin Solution		F						
1861	Resorcinol							T	
1862	Rhodium Trichloride							T	
1863	Rockets	E							
1864	Rubidium Hydroxide					C			
1865	Rubidium Hydroxide Solution					C			
1866	Salcomine							T	
1867	Sarin							T	
1868	Seed Cake		F						
1869	Selenates or Selenites							T	
1870	Selenic Acid					C			
1871	Selenious Acid							T	
1872	Selenium Compound, N.O.S.							T	
1873	Selenium Disulphide							T	

1874	Selenium Hexafluoride							T	G
1875	Selenium Oxychloride					C			
1876	Self-Heating Liquid, Corrosive Inorganic, N.O.S.		F						
1877	Self-Heating Liquid, Corrosive Oragnic, N.O.S.		F						
1878	Self-Heating Liquid, Inorganic, N.O.S.		F						
1879	Self-Heating Liquid, Organic, N.O.S.		F						
1880	Self-Heating Liquid, Toxic, Inorganic N.O.S.		F						
1881	Self-Heating Liquid, Toxic, Organic, N.O.S.		F						
1882	Self-Heating Solid, Corrosive, Organic, N.O.S.		F						
1883	Self-Heating Solid, Corrsive, Inorganic, N.O.S.		F						
1884	Self-Heating Solid, Inorganic, N.O.S.		F						
1885	Self-Heating Solid, Organic, N.O.S.		F						
1886	Self-Heating Solid, Oxidizing, N.O.S.		F						
1887	Self-Heating Solid, Toxic, Inorganic, N.O.S.		F						
1888	Self-Heating Solid, Toxic, Organic, N.O.S.		F						
1889	Self-Reactive Liquid Type B		F						
1890	Self-Reactive Liquid Type B, Temperature Controlled		F						
1891	Self-Reactive Liquid Type C		F						
1892	Self-Reactive Liquid Type C, Temperature Controlled		F						
1893	Self-Reactive Liquid Type D		F						
1894	Self-Reactive Liquid Type D, Temperature Controlled		F						
1895	Self-Reactive Type E		F						
1896	Self-Reactive Type E, Temperature Controlled		F						
1897	Self-Reactive Liquid Type F		F						
1898	Self-Reactive Liquid Type F, Temperature Controlled		F						
1899	Self-Reactive Solid Type B		F						
1900	Self-Reactive Solid Type B, Temperature Controlled		F						
1901	Self-Reactive Solid Type C		F						
1902	Self-Reactive Solid Type C, Temperature Controlled		F						
1903	Self-Reactive Solid Type D		F						
1904	Self-Reactive Solid Type D, Temperature Controlled		F						
1905	Self-Reactive Solid Type E		F						
1906	Self-Reactive Solid Type E, Temperature Controlled		F						
1907	Self-Reactive Solid Type F		F						
1908	Self-Reactive Solid Type F, Temperature Controlled		F						
1909	Semicarbazide Hydrochloride							T	
1910	Silane (4-Amino Butyl) Diethoxy-Meth							T	
1911	Silane, Compressed								G

1912	Silicon Tetrachloride					C			
1913	Silicon Tetrafluoride, Compressed								G
1914	Silver Arsenite							T	
1915	Silver Cyanide							T	
1916	Silver Nitrate			O					
1917	Silver Picrate, Wetted		F						
1918	Sludge Acid					C			
1919	Soda Lime					C			
1920	Sodium		F						
1921	Sodium Hydrosulphide					C			
1922	Sodium Acetoxy Triphenyl							T	
1923	Sodium Aluminate Solution					C			
1924	Sodium Aluminate, Solid					C			
1925	Sodium Aluminium Hydride		F						
1926	Sodium Ammonium Vanadate							T	
1927	Sodium Anthra-Quinone-1-Sulphonate							T	
1928	Sodium Arsanilate							T	
1929	Sodium Arsenate							T	
1930	Sodium Arsenite							T	
1931	Sodium Arsenite, Aqueous Solution							T	
1932	Sodium Arsenite, Solid							T	
1933	Sodium Azide							T	
1934	Sodium Borohydride and Sodium Hydroxide Solution				C				
1935	Sodium Bromate			O					
1936	Sodium Cacodylate							T	
1937	Sodium Chlorate	E		O	R				
1938	Sodium Chlorate, Aqueous Solution			O					
1939	Sodium Chlorite			O					
1940	Sodium Chloroacetate							T	
1941	Sodium Cuprocyanide, Solid							T	
1942	Sodium Cuprocyanide, Solution							T	
1943	Sodium Cyanide							T	
1944	Sodium Dinitro-O-Cresolate	E							
1945	Sodium Dinitro-O-Cresolate Wetted		F						
1946	Sodium Dithionite (Sodium Hydrosulphite)		F						
1947	Sodium Fluoride							T	
1948	Sodium Fluoro Acetate							T	
1949	Sodium Fluoro-Acetate							T	
1950	Sodium Fluorosilicate							T	
1951	Sodium Hydride		F						
1952	Sodium Hydrogendifluoride					C			
1953	Sodium Hydrosulphide		F						
1954	Sodium Hydroxide					C			
1955	Sodium Hydroxide Solution					C			
1956	Sodium Hydroxide, Solid					C			
1957	Sodium Methylate		F					T	
1958	Sodium Monoxide					C			

1959	Sodium Nitrate			O				T	
1960	Sodium Nitrate and Potassium Nitrate mixture			O					
1961	Sodium nitrate			O					
1962	SodiumPentachlorophenate							T	
1963	Sodium Pentachloro-Phenate							T	
1964	Sodium Perchlorate			O					
1965	Sodium Permanganate			O					
1966	Sodium Peroxide			O					
1967	Sodium Peroxoborate, Anhydrous			O					
1968	Sodium persulphate			O					
1969	Sodium Phosphide		F						
1970	Sodium Picramate	E						T	
1971	Sodium Picranate, Wetted		F						
1972	Sodium Selenate							T	
1973	Sodium Selenite							T	
1974	Sodium Sulphide			O		C			
1975	Sodium Sulphide, Anhydrous or Sodium Sulphide		F						
1976	Sodium Sulphide, Hydrated					C			
1977	Sodium Superoxide			O					
1978	Sodium Tellorite					C			
1979	Sodiumanthra-Qunone-1-Sulphanate					C			
1980	Solid Containing Corrosive Liquid, N.O.S.					C			
1981	Solid Containing Flammable Liquid, N.O.S.		F						
1982	Solid Containing Toxic Liquids N.O.S							T	
1983	Sopropyl							T	
1984	Stannane Acetoxy Triphenyl							T	
1985	Stannic Chloride Pentahydrate					C			
1986	Stannic Chloride, Anhydrous					C			
1987	Stannic Phosphides		F						
1988	Stibine								G
1989	Stibine (Antimony Hydride)							T	
1990	Strontium Arsenite							T	
1991	Strontium Chlorate			O					
1992	Strontium Nitrate			O					
1993	Strontium Perchlorate			O					
1994	Strontium Peroxide			O					
1995	Strontium Phosphide		F						
1996	Strychnine or Strychnine Salts							T	
1997	Strychinine Sulphate							T	
1998	Styphinine Acid (2,4,6-Trinitroresorcinol)							T	
1999	Styrene		F						
2000	Styrene Monomer, Stablized		F						

2001	Styrene,1,1,2,2-Tetrachloroethane		F					T	
2002	Substituted Nitro Pesticide, Liquid,Flammable		F						
2003	Substituted Nitro Pesticide, Liquid,Toxic							T	
2004	Substituted Nitro Pesticide, Liquid,Toxic,Flammable							T	
2005	Substituted Nitro Pesticide, Solid,Toxic							T	
2006	Sulfotep							T	
2007	Sulotep							T	
2008	Sulphanmic Acid					C			
2009	Sulphotec					C			
2010	Sulphoxide,3-chloro octyl							T	
2011	Sulphur Chloride					C			
2012	Sulphur Dichloride							T	
2013	Sulphur Dioxide							T	G
2014	Sulphur Hexafluoride								G
2015	Sulphurnibicgkirude							T	
2016	SulphurTetrafluoride								G
2017	Sulphur Trioxide					C			
2018	Sulphur Trioxide, Stablized					C			
2019	Sulphur, Molten		F						
2020	Sulphuric Acid					C			
2021	Sulphuric Acid or Battery Fluid, Acid					C			
2022	Sulphuric Acid, Fuming					C			
2023	Sulphuric Acid, Spent					C			
2024	Sulphrous Acid					C			
2025	Sulphuryl Chloride					C			
2026	Sulphuryl Fluoride								G
2027	Suphuric Acid					C		T	
2028	Tars, Liquid		F						
2029	T-chloro 1,2,2,2-								G
2030	Tear Gas Candles							T	
2031	Tellurium Compound, N.O.S.							T	
2032	Tellurium Hexafluoride							T	G
2033	Tellurium Hexafluride							T	
2034	Tellurium(Powder)							T	
2035	Tepp (Tetraethyl Pyrophosphate)							T	
2036	Terbufos							T	
2037	Terpene Hydrocarbns, N.O.S		F						
2038	Terpinolene		F						
2039	Ter Butyl Peroxyiso-Butrate							T	
2040	Tert Butyl Peroxy Isopropyl							T	

2041	Tert Butyl Peroxy Isopropyl							T	
2042	Tert-Butyl Perdoxyacetate(Conc>70%)							T	
2043	Tert Butyl Alcohol							T	
2044	Tert Butyl Anate							T	
2045	Tert Butylcyclo		F						
2046	Tert-Butylcyclohexyl Chloroformate							T	
2047	Tera Hydrofuran		F						
2048	Tera Methyl Lead							T	
2049	Tera Nitromethane							T	
2050	Terabromobisphenol-A							T	
2051	Terabromoethane							T	
2052	Tetrachloro2,2,5,6,2,5-Cyclogexadube-1,4-Dione							T	
2053	Tetrachlorodibenzo-P-Dioxin,2,3,7,8(Tcdd)							T	
2054	Tetrachloroethylene							T	
2055	Tetractyle Lead							T	
2056	Tetractyle Lead							T	
2057	Tetraethyl Dithiopyrophosphate							T	
2058	Tetraethyl Lead							T	
2059	Tetraethyl Silicate		F						
2060	Tetraethylenepentamine				C				
2061	Tetrafluoroethane							T	
2062	Tetrafluoroethylene, Stabilized								G
2063	Tetrafluoromethane Compressed (Refrigerant Gas R14, Compressed)								G
2064	Tetrafluriethyne							T	
2065	Tetrahydrofuran		F					T	
2066	Tetrahydrofurfurylamine		F						
2067	Tetrahydrophthalic Anhydrides				C				
2068	Tetrahydrothiophene		F						
2069	Tetramethyl Lead							T	
2070	Tetramethylammonium Hydroxide			C					
2071	Tetramethyl Disulphotetramine							T	
2072	Tetramethylsilane		F						
2073	Tetranitroaniline	E							
2074	Tetranitromethane			O					
2075	Tetrapropyl Orthotitanate		F						
2076	Tetrazol-1-Acetic Acid	E							
2077	Thallium and Compounds							T	
2078	Thallium Carbonate							T	
2079	Thallium Chlorate			O					

2080	Thallium Compound. N.O.S.							T	
2081	Thallium Nitrate							T	
2082	Thallic Oxide							T	
2083	Thallium Sulphate							T	
2084	Thallous Chloride							T	
2085	Thallous Malonae							T	
2086	Thallus Sulphate							T	
2087	Thionyl Chloride							T	
2088	Thioacetic Acid		F						
2089	Thiocarbamate Pesticide, Liquid, Flammable Toxic							T	
2090	Thiocarbamate Pesticide, Liquid, Toxic		F						
2091	Thiocarbamate Pesticide, Liquid, Toxic,Flammable							T	
2092	Thiocarbomate Pesticide, Liquid Toxic, Flammable							T	
2093	Thiocarbamate Pesticide, Solid, Toxic							T	
2094	Thiocarbaxide							T	
2095	Thiocynamicacid,2-(Benzothiazolyethio)Methyl							T	
2096	Thiofamox							T	
2097	Thioglycol							T	
2098	Thioglycolic Acid						C		
2099	Thiometon							T	
2100	Thionaxin							T	
2101	Thionyl Chloride						C		
2102	Thiophene		F						
2103	Thiophenol							T	
2104	Thiophosgene							T	
2105	Thiophosphoryl Chloride						C		
2106	Thiosemicarbaxide							T	
2107	Thiourea(2-Methyl Phenyl)						C		
2108	Thiourea Dioxide		F						
2109	Thiourea (R-Chloro-Phenyl)					C			
2110	Thiourea (2-Methyl-1-3-Di-Thiolane)					C			
2111	Thiram							T	
2112	Tirpate							T	
2113	Tirpate (2,4-Dimethyl-1-3-Dithiolane)							T	
2114	Titanium Disulphide		F						
2115	Titanium Hydride		F						
2116	Titanium Powder							T	
2117	Titanium Power, Dry		F						

2118	Titanium Sponge Granule or Titanium Sponge Powders		F						
2119	Titanium Tetrachloride					C			
2120	Titanium Tetra-Chloride							T	
2121	Titanium Trichloride, Pyrophoric or Titanium Trichloride Mixture, Pyrophoric		F						
2122	Titanium Tetrachloride Mixture					C			
2123	Toluene		F						
2124	Toluene2,6-Diisocynate							T	
2125	Toluene 2,4-Diisocynate							T	
2126	Toluene Diisocynate							T	
2127	Toluene-2,4-Diisocynate							T	
2128	Toluene-2-4-Diisocynate							T	
2129	Toluidine-o							T	
2130	Toluidines,Liquid/Solid							T	
2131	Toxic Liquid							T	
2132	Toxic Liquid Flammable, Organic, N.O.S							T	
2133	Toxic Liquid inorganic, N.O.S							T	
2134	Toxic Liquid Organic, N.O.S							T	
2135	Toxic Liquid, Oxidizing, N.O.S							T	
2136	Toxic Liquid, Water Reactive, N.O.S							T	
2137	Toxic solid, Corrosive, Inorganic, N.O.S							T	
2138	Toxic solid, Corrosive, Organic, N.O.S							T	
2139	Toxic Solid, Flammable, Organic, N.O.S							T	
2140	Toxic solid, Inorganic, N.O.S							T	
2141	Toxic solid, Organic, N.O.S							T	
2142	Toxic solid, Oxidising, N.O.S							T	
2143	Toxic solid, Self- Heating, N.O.S							T	
2144	Toxic Solid, Water Reactive, N.O.S.							T	
2145	Toxins, Extacted From Living Sources, Liquid/Solid N.O.S							T	
2146	Trans-1,4-Dichloro-Butene							T	
2147	Tri Nitro Anisol							T	
2148	Tri Orthocresyl Phosphate							T	
2149	Tri (Cyclohexyl) Methylstannyl 1,2,4 Triazole							T	
2150	Tri (Cyclohexyl) Stannyl 1-H-1,2,4-Triazole							T	
2151	Triallyl Borate							T	
2152	Triallylamine		F						
2153	Triamino,-1,3,5,2,4,6-Trinitro-Benzene	E						T	
2154	Triaminotrinitrobenzene							T	
2155	Triazine Pesticide, Liquid, Flammable Toxic		F						

2156	Triazine Pesticide, Liquid, Toxic, Flammable							T	
2157	Triazine Pesticide, Liquid, Toxic, Flammable							T	
2158	Triazine Pesticide, Solid, Toxic							T	
2159	Tribromophenol2,4,6							T	
2160	Tributylamine							T	
2161	Tributylphosphane		F						
2162	Trichloro (Chloromethyl) Silane							T	
2163	Trichloro Acetyl Chloride							T	
2164	Trichloro Chloromehtyl Silane							T	
2165	Trichloro Ethane							T	
2166	Trichloro Napthalene							T	
2167	Trichloro Acetic Solution					C			
2168	Trichloro Acetic Acid Solution					C			
2169	Trichloroacetyl Chloride					C			
2170	Trichlorobennzene, Liquid							T	
2171	Trichlorobutene							T	
2172	Trichlorodethylene							T	
2173	Trichlorodichlorophenylsilane							T	
2174	Trichloroethane,1,1,-1							T	
2175	Trichloroehtyl Silane							T	
2176	Trichloroethylene							T	
2177	Trichloroisocy Anuric Acid, Dry			O					
2178	Trichloromethanem Sulphenyl Chloride							T	
2179	Trichloronate							T	
2180	Trichlorophenol 2,3,6							T	
2181	Trichlorophenol 2,4,5							T	
2182	Trichlorophenol 2,2,6							T	
2183	Trichlorophenol 2,4,5							T	
2184	Trichlorophenyl Silane							T	
Sr. No.	Name	E	F	O	R	C	Ra	T	G
2184	TrichlorophenylSilane							T	
2185	Trichloropheon							T	
2186	Trichlorosilane		F						
2187	Tricresyl Phosphate			O				T	
2188	TriethoxySilane							T	
2189	TriethylPhosphite		F						
2190	Triethylamine		F			C			
2191	Triethylene Melamine							T	
2192	Triethylenetetramine					C			
2193	Trifuoroacetic Acid					C			
2194	Trifluoroacetyl Chloride								G
2195	Trifluoromethane (Refrigernate Gas R 23)								G

2196	Trifluoromethane, Refrigerated Liquied								G
2197	Triisobutylene		F						
2198	Trimethyl Borate		F						
2199	TrimethylChlorosilane							T	
2200	TrimethylPhosphite		F						
2201	Trimethyl Propane Phosphite							T	
2202	Trimethyl Tin Chloride							T	
2203	Trimethylacetyi Chloride							T	
2204	Trimethylamine, Anhydrous								G
2205	Trimethylamine, Aqueous		F						
2206	Tremithylchlorosilane		F						
2207	Trimethylcyclohexylamine					C			
2208	TrimethylhexamethyleneDiisocyanate							T	
2209	Trimethylhexamethylene-Diamines					C			
2210	TrimethylpropanePhosphite							T	
2211	Trinitro Aniline	E							
2212	Trinitro Benzene	E							
2213	Trinitro Benzoic Acid					C			
2214	Trinitro-in-Cresol					C			
2215	TrinitroPhenetole							T	
2216	Trinitroaniline							T	
2217	Trinitroaniline (Picramide)	E							
2218	Trinitroanlsle,-2,4,6	E							
2219	Trinitroanisole	E							
2220	Trinitroanisole, 2, 2, 4, 6							T	
2221	Trinitrobenzene	E						T	
2222	Trinitrobenzene, Wetted		F						
2223	Trinitrobenzenesulphonic Acid	E							
2224	Trinitrobenzoic Acid	E							
2225	Trinitrobenzoic Acid, Wetted		F						
2226	Trinitrochlorobenzene (Picryl Chloride)	E							
2227	Trinitrochlorobenzene (Picryl Chloride)	E							
2228	Trinitrocresol	E						T	
2229	Trinitroesorenol, 2, 4, 6 (Styphnic Acid)							T	
2230	Trinitrofluorenone	E							
2231	Trinitro-M-Cresol	E							
2232	Trinitronaphthalene	E							
2233	Trinitrophenetole	E							
2234	Trinitrophenetole,2,4,6	E						T	
2235	Trinitrophenol, Wetted		F						
2236	Trinitrophenylmethylnitramiine (Tetryl)	E							
2237	Trinitrorsorcinol (Styphnic Acid)	E							
2238	Trinitrorsorcinol,-2,4,6(Styphnic Acid)	E							
2239	Trinitrotoluene	E							
2240	Trinitrotoluene (Tnt)	E							
2241	Trinitrotoluene, Wetted		F						
2242	Triorthocresyl Phosphate							T	
2243	Tripate(2,4-Dimethyl-1,3-Dithiolance)							T	
2244	Triphenyl Tin Chloride							T	

2245	Tripropylamine		F						
2246	Tritrotylene		F						
2247	Tris (1-Aziridinyl) Phosphine Oxide Solution							T	
2248	Tris (2-Chloroethyl) Camine							T	
2249	Trisopropyl Borate		F						
2250	Tungsten Hexafluride								G
2251	Turpentine		F						
2252	Uranium and Compounds							T	
2253	Urea Hydrogen Peroxide			O					
2254	Urea Nitrate	E							
2255	Urea Nitrate, Wetted		F						
2256	Valeraldehyde		F						
2257	Valeryl Chloride					C			
2258	ValinoMycin							T	
2259	Vanadium and Compounds							T	
2260	Vanadium Comounds, N.O.S.							T	
2261	Vanadium Oxtrichloride				C				
2262	Vanadium Pentaoxide							T	
2263	Vanadium Pentoxide							T	
2264	Vanadium Tetrachloride					C			
2265	Vanadium Trichloride					C			
2266	Vanadyl Sulphate							T	
2267	Vinyl Acetate Mononer							T	
2268	Vinyl Bromide							T	
2269	Vinyl Bromide, Stabilized								G
2270	Vinyl Butyrate, Stabilized		F						
2271	Vinyl Chloride	E						T	
2272	Vinyl Chloride, Stabilized								G
2273	Vinyl Chloroacetate							T	
2274	Vinyl Fluoride							T	
2275	Vinyl Isobutyl Ether, Stabilized		F						
2276	Vinyl Methyl Ether, Stabilized								G
2277	Vinyl Norbornene							T	
2278	Vinyl Toluene	E						T	
2279	Vinylcyclohexen Dioxide							T	
2280	Vinyledene Chloride							T	
2281	Vinylidene Chloride, Stabilized		F						
2282	Vinylpyridines, Stabilized							T	
2283	Vinyltoluenes, Stabilized		F						
2284	Vinyltrichlorosilane, Stabilized		F						
2285	VutylAmine Tert							T	
2286	Warfarin							T	
2287	Warfarin Sodium							T	
2288	Water-Reactive Liquid, N.O.S.	E	F	O	R	c		T	
2289	Water-Reactive Solid, N.O.S.	E	F	O	R	C		T	
2290	White Asbestos							T	
2291	Xanthates		F						
2292	Xenon,Compressed								G

2293	Xenon, Refrigerated Liquid								C
2294,	Xylene		F					T	
2295	Xylene Dichloride							T	
2296	Xylenes		F						
2297	Xylenols							T	
2298	Xylidine							T	
2299	Xylidines, Liquid/Solid							T	
2300	Xylyl Bromide							T	
2301	Zinc Ammonium Nitrite			O					
2302	Zincand Compounds							T	
2303	Zinc Arsenate, Zinc Arseniteor Zinc Arsenate And Zinc Arsenite Mixture							T	
2304	Zinc Bromate			O					
2305	Zinc Chlorate			O					
2306	Zinc Chloride Solution					C			
2307	Zinc Cyanide							T	
2308	Zinc Dichloropentanitrile							T	
2309	Zinc Dithionite (Zinc Hydrosulphite)							T	
2310	Zinc Fluorosilicate							T	
2311	Zinc Phosphide		F						
2312	Zinc Resinate		F						
2313	Zirconiumand Compounds		F						
2314	Zirconium Nitrate			O					
2315	Zirconium Picramate	E							
2316	Zirconium Powder, Dry		F						
2317	Zirconium Scrap		F						
2318	Zirconium Tetrachloride					c			
2319	Zirconium, Dry		F					T]	