

**Ministry of Defence
Defence R&D Organisation**



STEC PAMPHLET - 10

**REGULATIONS FOR THE CONVEYANCE OF MILITARY
EXPLOSIVES AND AMMUNITION BY ROAD**

2025

Issued by

Storage & Transport of Explosives Committee
Centre for Fire, Explosive & Environment Safety (CFEES)
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P R E F A C E

Consequent upon the decision by the Storage and Transport of Explosives Committee to adopt the international system of classification of explosives, it has been necessary to revise the Regulations for the conveyance of Military Explosives and Ammunition by Road. Regulations have been framed keeping in view the international practices and requirements of the user organizations discussed and approved by the STEC from time to time.

These regulations are intended for use of different Services/Organisations under the Ministry of Defence and shall be followed while transporting military explosives/ammunition by Road.

It is hoped that users will find this revised STEC Pamphlet 2025 simpler, easier to understand and implement, thereby promoting the safe storage and transportation of military explosive. This publication supersedes STEC Pamphlet, 2017 on the subject.

General

1. These Regulations have been drawn to govern the conveyance of Military explosives and ammunition by road. These are applicable to the three Services, Ordnance Factories under the Ordnance Factory Board, DRDO, DGQA and other Defence Establishments.
2. The term 'explosives' mentioned in the regulations covers bulk explosives and/or filled ammunition or both.
3. These regulations are basically oriented towards transportation of explosives/ammunition over long distances from one explosives establishment/unit to another.

Vehicles

4. Military explosives will be transported by road only in:-
 - (a) A petrol/diesel driven vehicle or a trailer towed by a petrol/diesel driven vehicle.
 - (b) In an enclosed explosives area, it is preferable to use either battery operated trucks or diesel engined vehicles. If petrol engined vehicle is used, it should be parked outside the traverse of an explosives building or at least 5 metres away from an untraversed building.

General Requirements for All Vehicles Carrying Explosives

5. Every vehicle including the trailer, if attached in which explosives are transported will be in good structural and mechanical condition and have its electric wiring, lights, fuel system, etc., in good working order. The engine will be free from accumulation of dirt, oil and grease and there will be no accumulation of trash or soiled cotton waste anywhere. A metal box painted red will be fitted in the cab of the vehicle for depositing smoking materials.
6. The trailer, if attached, will be fitted with brakes which can be operated from the driver's cab of the towing vehicle and where the trailer is not of an articulated type, the brakes should be capable of being automatically applied if the trailer is accidentally detached from the towing vehicle.
7. The vehicle used should normally be of covered type. If covered type is NOT available, open vehicle may be used. In such cases, the explosives will be adequately covered with tarpaulins for protection from rain, snow and direct exposure to sun.
8. An efficient fire-extinguisher of foam/BCF type and of adequate capacity capable of extinguishing an engine fuel fire will be fitted in the cab.

Special Requirements – Use of Explosives Vans

9. Vehicles used for the conveyance of explosives of Compatibility Group A to D and F shall comply with the following requirements:-
- (a) The vehicle will be of covered type.
 - (b) The cab will be separated from the body of the vehicle by a fire-resisting screen carried down to within 30cm of the ground. A clear space of about 15cm should be provided between the screen and the body of the van.
 - (c) The fire-resisting screen shall consist of 18 gauge steel sheet lined on either side one ply asbestos sheets. The screen suitably supported in an angle iron frame of light construction will be fitted to the body of the vehicle. The height of the screen should be equal to the height of vehicle body. It should be painted in light yellow colour with a duly approved paint
 - (d) The driver's cab shall be fitted and covered externally with 20 S.W.G. aluminium/mild steel sheeting.
 - (e) Non-splinter type glass shall be used for front wind screen and windows of the cabin door.
 - (f) A substantially framed wind screen shall be fitted with the portion in front of the driver's seat pivoted on strong brass quadrants for opening.
 - (g) The position of the fuel tank in respect of petrol driven vehicle shall be in front of the fire screen/below driver's seat. However, in the case of diesel driven vehicles, the diesel tanks may be below the body.
 - (h) The whole unit of the silencer and the exhaust pipe shall be positioned in front of the fire screen. The exhaust pipe shall be fitted with an effective spark arrester.
 - (j) A quick action cut-off shall be fitted on the fuel feed pipe near the carburetor and shall be capable of being operated without the necessity of lifting the bonnet.
 - (k) If the vehicle is of the oil driven type, the High Speed Diesel (HSD) used in the engine must not give off flammable vapour at a temperature less than 38⁰ C (i.e. the flash point of the fuel must not be less than 38⁰C).
 - (l) A self starter shall be provided.
 - (m) Electrical head, side and tail lamps shall be provided and shall be operated from the dash board fitted to the driver's seat.
 - (n) A back rest and cushion shall be fitted to the driver's seat.

- (o) One spare wheel inclusive of outer cover and inner tube shall be carried for each size of wheel on the chassis.
- (p) The body and cab shall be painted with an approved magazine paint. A 100mm wide red band painted on either side and back with the word “Explosives” above the band should be displayed.
- (q) The body of the vehicle should conform to the constructional details given at Appendix ‘A’.

Types of Vehicles to be used

- 10 Special types of vehicles termed as “Explosives Vans” conforming to both the general and special requirements as detailed in paras 5 to 9 above or ordinary Service Vehicles termed as “General Service (GS) vehicles” meeting the general requirements of paras 5 to 8 above will only be used for conveyance of Military Explosives. In exceptional cases, private vehicles conforming to specifications of paras 5 to 8 may be used in lieu of GS vehicles after due authorization by the Head of the Establishment.

Mixing of Groups, Quantity Restrictions and Types of Vehicles

- 11. As far as practicable, explosive belonging to different compatibility groups shall normally be transported separately in a road vehicle.
- 12. Under special circumstances like, where a full load cannot be made from one group, explosives of groups, C, D and E may be mixed and transported together upto maximum quantity of 500 kg NEC.
- 13. Compatibility group ‘S’ can be mixed with any other group except A & L.
- 14. Fuzed ammunition (Comp. Group F) shall invariably be transported separately.
- 15. Subject to the condition that gross weight of the load in no case exceeds the authorized load to be carried in a vehicle, the net explosives content in no case shall exceed 6000kg.
- 16. Explosives belonging to Groups B, F and bulk explosives belonging to Groups C and D shall normally be transported only in explosives vans by all Services/Organizations. In exceptional cases, GS vehicles may be permitted with prior approval of the Head of the Establishment under intimation to their Service HQ.
- 17. Explosives belonging to all other groups except groups A, B, F and bulk explosives belonging to Groups C and D can be transported in GS vehicles.
- 18. Initiatory explosives from Group A shall not be transported in bulk. Only 28 g samples as packed below can be transported: Samples of initiatories should be packed ‘loose’ in

cylindrical capsules closed by cotton wool. The capsules are placed in cylindrical holes in a wooden block lined with sorbo (or equivalent) rubber and covered by sorbo rubber (or equivalent) pad in wood wool in a metallic container. No container should contain more than 28 g divided equally in 4 capsules. The capsules should be of brass or copper for mercury fulminate and for compositions containing mercury fulminate, but of aluminium for other explosives.

19. Explosives of Compatibility Group B and bulk explosives of Groups C & D with quantity upto 50kg NEC and packed in Service/approved packages can be transported in GS vehicles.
20. Explosives of Compatibility Group B and bulk explosives of Groups C & D with quantity upto 250kg NEC in suitable packages and further packed in Service/approved steel boxes can be transported in GS vehicles.

Proof Samples – Dispatch of

21. For proof purposes, Compatibility Groups C, D and E may be mixed and transported together. However requisite quantities of primers, fuzes and detonators belonging to Compatibility Group B required for proof of ammunition items in C, D and E may be transported together in the same vehicle if they are packed separately in approved packages.
22. As far as possible, proof articles of Compatibility Group F (Fuzed) and G should be conveyed separately. If practical and economic considerations warrant, then proof articles of Groups C, D, E, F and G may be transported together along with requisite numbers of fuzes, detonators and primers of Group B packed separately in approved packages with prior approval of the Head of the Establishment under intimation to their respective service HQ. Substances of Groups C, D and G in loose powder form shall not be mixed and transported with the articles of Groups C, D, E, F and G.
23. Proof consignment shall be transported only in explosives vans and maximum quantity carried in a vehicle shall not exceed 500kg NEC.

Conveyance of Explosives in ISO Freight Containers

24. Conveyance of explosives in ISO Freight Containers (refer provisions of STEC pamphlet No. 20) by road shall be resorted to only when:
 - (a) The explosives are received from foreign countries in containers;
 - (b) The explosives are exported to other countries in containers; or
 - (c) The explosives are transported within the country.
25. The freight containers shall be of approved type conforming to international standards.
26. The vehicle carrying the container shall conform to Paras 5 to 9 of the Regulations.

27. Only explosives belonging to Compatibility Groups B, C, D, E, F, G and S can be carried in freight containers by road.
28. As far as possible, explosives from the same Compatibility Group should be carried in a container. If this is not possible, explosives from Compatibility Groups C, D, E, and S can be transported in the same container.
29. When fuzed ammunition (Compatibility Group F) is carried, the inside of the container should be lined with wood on the floor, top, sides, front and back.
30. The maximum weight of explosives that can be carried in a container is 16000kg gross weight. The combined gross weight of the vehicle and its load is not to exceed 90% of the vehicle's plated weight.
31. A vehicle conveying explosives of Hazard Division 1.1 is to be accompanied on its journey with a separate vehicle carrying armed escorts at the discretion of the consignor.

Security and Administrative Arrangements

32. It will be the responsibility of the receiving establishments/unit to arrange necessary escorts for the vehicle/vehicles conveying explosive. However in case of dispatch of proof samples, the responsibility of providing escort will be of the dispatching establishment.
33. The driver will be fully instructed as to his responsibility and conduct during the journey as laid down in appendix 'B' to these Regulations. A copy of these instructions will be handed over to the driver for strict compliance.
34. The driver and the escort will be at least eighteen years of age.
35. As far as possible for any trip exceeding 6 continuous driving hours, a spare driver will be provided by the OC of the Unit supplying the transport.
36. The driver and the escort will be provided with one copy of appendix 'C' each for guidance and immediate action in case of a fire involving the vehicle or the load. These instructions will be fully explained to them before the commencement of the journey.

37. The driver and the escort will also be provided with the following certificate duly sealed and signed by the consignor: -

“This is to certify that the bearer of this certificate is escorting Military Explosives and is to be given all possible help, in the event of a breakdown or accident especially in phoning up the authorities concerned.”

SIGNATURE

Rank.....Date.....

SEAL OF OFFICE

38. Translation of the instructions and the certificate referred to at paras 33, 63 and 37 above should be made in Hindi or local language and a copy handed over to the person (s) concerned.

Safety Precautions

39. The various instructions for loading and unloading of vehicles used for conveyance of explosives, detailed in Appendix ‘D’ to these Regulation will be complied with.
40. During loading, unloading or transport of explosives, all personnel will observe necessary precautions listed in Appendix ‘D’ for the prevention of accidents by fire or explosion.
41. No smoking will be permitted within 30m of the vehicle or stack containing explosives and no fire or naked light will be allowed within 90m of the vehicle or stack.
42. The vehicle will NOT be refueled within an explosives area.
43. No fuel will be carried in a vehicle loaded with explosives except in the fuel tank.
44. No explosives, will be carried in the cab except as detailed in the ‘Note’ under para 7 of Appendix ‘B’
45. When transporting unboxed ammunition, all projectiles will be laid on their sides and not on their bases. The sides of the projectiles should be parallel to the side of the truck to avoid the possibility of the rolling down of the projectiles and causing damage to the tail board of the truck.
46. No intoxicated person will be allowed to be in or in attendance on the vehicle at any time during loading, unloading and conveyance.
47. After loading explosives, appropriate Fire Division symbol will be suitably displayed on the vehicle, by the side of the red flag, for guidance to fire fighting personnel, if necessary. If

the vehicle is loaded with explosives of more than one fire division, the fire symbol to be displayed on the vehicle will be that of the more hazardous fire division.

48. The journey should be so routed that, as far as possible thickly populated areas are avoided.
49. As far as possible all journeys should be completed during the hours of day-light.
50. The speed of the vehicle should NOT exceed maximum 50 per hour but restricted to 80% of local speed limit.
51. A vehicle loaded with explosives will under NO circumstances be left unattended.
52. When explosives are carried in a convoy, the distance between any two vehicles will not be less than 87 metres but in case of fire on any vehicle the distance will not be less than 275 metres.
53. No unauthorized person will be permitted access to the explosives being carried or to act in a manner likely to be prejudicial to the safety of the explosives.
54. When WP ammunition is transported, adequate quantities of sand and water will also be carried in suitable containers.

Conveyance of Explosives for Disposal

55. Unless deteriorated to such an extent as to be hazardous for conveyance, explosives/ammunition sentenced unserviceable by Inspecting Authority may be transported by road for disposal under normal regulations.
56. The ammunition should, as far as possible, be in their Service packages or well packed to prevent internal movement and damage.
57. Bulk explosives may be in their Service packages but if recovered from breakdown or collected from sweepings must be either packed separately in cloth/rubberized bags and wetted as necessary and further packed in wooden boxes or suitable receptacles. Alternatively the sweepings after thorough wetting may be packed in polythene container with close fitting lids.
58. Leaking WP ammunition must be kept well immersed in water and transported as such.
59. Demolition stores will not be carried in the same vehicle carrying the explosives for disposal.
60. When deteriorated explosives are transported, the accompanying personnel may travel only in the cab of the vehicle conveying explosives and not in the body of the vehicle with explosives.

61. The speed of the vehicles should be reduced on bad roads uneven terrain to minimize bumping and movement of the packaged.

Conveyance of Explosives Samples by Private Cars

62. Small quantities of explosives/ammunition samples except loose initiatory and initiatory compositions of Compatibility Group 'A' packed in containers which in the event of an accident to the vehicle would not be damaged and lead to serious consequences may be carried in private cars under the written authority of the OC of the establishment/unit. Taxis shall not be used.
63. A responsible official will be incharge of the conveyance throughout.
64. In the case of the explosives/ammunition, the quantity limit except Group A and B will be 5kg NEC. In case of Group B, only detonators subject to a maximum of 50 in number may be carried.
65. The explosives/ammunition will not be stowed in the boot of the vehicle.

Transportation of large Rocket Motors by Road

66. The approval of transportation of large Rocket motors (without Nozzle) should be issued by the head (Safety Engg. division) of the concerned lab/establishment, provided the stipulations mentioned in Appendix-F are complied with and the approval of transportation of large Rocket motors (with Nozzle) should be issued by the head of the concerned lab/establishment, provided the stipulations mentioned in Appendix-G are complied with.

Special Instructions for Transport of IAF Ammunition

67. HE A/C Bombs of the Air Force may be loaded to the normal loading capacity of the vehicle. Bombs upto 1000lb will be loaded crosswise and will be securely chocked and roped. Bombs exceeding 1000lb will be loaded lengthwise and chocked and roped.

Packing

68. Explosives should always be packed in Service/approved packages.
69. Whenever steel boxes are used for further packing, it should be of thickness corresponding to 20BG or greater thickness corresponding to lower BGs.

Relaxations

70. When non-compliance with these regulations become inescapable in specific instances, the sanction of the respective Headquarters should always be obtained in advance.

Fire symbols for Road Transport

71. a. The Hazard Division signs shown in Appendix 'E' are to be fixed, one on each side (total 2) of every freight container and van containing explosive. The consignor is responsible for the provision and fixing of signs. The consignee is responsible for their removal, once all explosives have been off-loaded.
- b. The height and location of these signs should provide for their being easily seen, unobstructed by doors in the open position and out of easy reach of unauthorized persons. The Hazard Division sign will be used in addition to any label normally used by the railway authorities.
- c. Where the load consists of explosives in more than one Hazard Division all will be deemed to be in that division amongst them which comes highest in the following list, that is, Hazard Division 1.1 (highest), 1.2, 1.3, 1.4, (lowest). In the case of freight container or rail wagon carrying explosives of different Compatibility Groups, no Compatibility Group letter shall be written on the placards.

CONSTRUCTIONAL DETAILS OF THE EXPLOSIVES VAN BODY

Dimensions

1. The internal dimensions shall be 3050mm long, 1850mm wide, 1520mm high at sides and 1630mm high along the center line of the Van.

Construction

2. The body framing is to be constructed of good quality wood like teak or sesum thoroughly seasoned and free from all defects. All joints are to be morticed and tenoned or half checked, depending upon their position in the structure, and securely fixed with screws. The joints are to be coated with white lead before assembly. All parts of the framing which will be in contact with the outer metal paneling are also to be thoroughly coated with white lead before paneling is fixed thereto. Iron plates, Knees, etc. may be used for stiffening the framing where they are considered necessary but no such iron work must be exposed in the interior of the completed van body.
3. The roof sides, ends and doors of the van should be covered externally with 20 S.W.G. aluminium sheeting. The sheeting must have a smooth surface, free from distortion or any dents, and should be fitted to the framing in sections of convenient size. The roof is in four sections, and these turn down the sides and ends to a distance of 25mm, the end turnovers being relieved at intervals of 150mm to allow the sheeting to lie flat on the framing. At all places where sheeting is fixed to the body framework, it has to be covered by a beading. The roof beading is of aluminium 19mm x 4mm whilst a wooden whether beading is round the sides and ends where the joint with the roof sheeting takes place. At other places, aluminium beading 10mm x 4mm has to be used, excepting only the bottom joint of the sides which is covered by a wooden rail 25mm wide x 38mm deep and the central cover joint of the doors, which is formed with a flat mild sheet strap 38mm wide.
4. The interior of the van body has to be lined with 20 SWG aluminum sheeting throughout, sides, roof and doors. The lining has to be fitted in as few sections as possible, and in all cases brass screws must be used for securing the same.

Flooring

5. This is to be constructed of good quality wood like teak or sesum boarding, tongued and grooved, 22mm thick and about 150mm or 175mm in width. It is so be recessed into the sole plate of the van body and below it is to be fixed a 20 S.W.G. aluminium sheet. The flooring is to be supported by bearers about 29mm thick by 50mm wide fitted between the sole plate and screwed on top of the cross-members of the chassis frame.

6. The sill of the doorway has to have a fall outwards of 6mm and it should be covered with a brass plate full width of the doorway 62mm wide inside, and having its outer edge turned downwards, and secured in position with brass screw.
7. Double doors, which will open outwards, shall be fitted at the rear end of the body. The doors will be hung on strong hinges. The door should fit closely and provided with locking arrangement. Slam lock and cross bar outside the doors shall be provided to prevent rattling. The doors should open fully and rest on sides and the front curves of the interior of the body should be strengthened with MS section and teak wood pellets paneled by 10 gauge aluminium sheets.
8. There shall be no opening in the body of the vehicle, except through the doors at the back. No holes shall be drilled in the chassis, unless allowed by the maker for the purpose of securing the van body.

**INSTRUCTIONS TO DRIVERS OF ROAD VEHICLES
TRANSPORTING MILITARY EXPLOSIVES**

The driver of a vehicle carrying Military Explosives will ensure that

1. The vehicle and load are examined before the journey begins to see that the vehicle is in a serviceable condition and that the load is properly secured and evenly distributed.
2. His lighter, matches and smoking materials, if any and those of the escort (s) are placed in the red metal box provided within the cab of the vehicle.
3. An efficient fire extinguisher of approved type and of adequate capacity capable of extinguishing an engine fuel fire is fitted in the cab of the vehicle.
4. Adequate quantities of sand and water are carried in suitable containers when WP ammunition is transported.
5. Red flags are displayed on both sides of the cab and at the rear of the vehicle.
6. No explosives are carried in the cab.

Note: This, however, will not apply to personnel riding in the cab of the vehicle carrying small quantities of authorized personal arms and ammunition in the ordinary course of duty.

7. When the vehicle is loaded or unloaded or during refueling, the electric system should be switched off and if the engine is provided with magnetic ignition, it should be grounded.
8. No fuel is carried in or on the vehicle except in the fuel tank.
9. The tail board of the vehicle at the rear is well secured before starting off.
10. The appropriate fire division class symbol is suitably displayed on the vehicle.
11. The speed of the vehicle should NOT exceed maximum 50 per hour but restricted to 80% of local speed limit.
12. The vehicle is stopped before passing any unguarded level crossing and started only after ascertaining that it is safe to proceed further.

13. The vehicle is stopped as soon as possible in open country after covering approximately 10km and that it is also stopped thereafter in open country at intervals of one hour of driving and inspected to see that: -
 - (a) The vehicle is generally in a serviceable condition.
 - (b) The load remains secure and intact.
 - (c) No undue heat is being generated through movement of the load, rubbing of the tyres of the chassis, deflation of the tyres, faulty brake adjustment or other causes.
 14. Any defect found on inspection is remedied before he proceeds further on the journey.
 15. If an accident or breakdown occurs en-route he informs the consignee or consignor as quickly as possible. Police and the nearest Military Commander should also be notified. In the event of mechanical breakdown, he will notify the local Military Commander and will take orders from him regarding action to be taken.
 16. In case of an accident and where the explosives involved are suspected to have been rendered dangerous, no action will be taken to gather and/or set aside any packaged or its contents which might have been thrown about as a result of the accident. Such explosives will be left in site and guarded till the arrival of competent persons who will decide as to what further action is to be taken. The affected area will be prominently marked and action taken to warn oncoming traffic of the danger. In the event of vehicle being entangled with another vehicle or with any object or structure, no attempt will be made to disentangle the explosive vehicle (s) until the load is removed to a place 100 metres away from the vehicle or any habitation. Inhabitants and other vehicles will be warned of the danger.
- NOTE:* - The foregoing does not, however, prohibit action of the escort commander or other responsible person on the spot which he may consider essential to avert immediate danger to life or property.
17. In the event of storm or frequent lightning during the journey, the vehicle should be driven out of built up areas, if practicable, and parked away from trees.
 18. Neither the driver nor the escort nor any other person smoke within 30metres of the vehicle.
 19. The vehicle is NOT at anytime left unattended (i.e., either the driver or the escort is on the vehicle or close to it) and that NO person other than the driver or the escort is allowed on the vehicle except for the purpose of loading or unloading.
 20. The journey is completed without unnecessary halts and that the vehicle is NOT parked close to any building or stopped in any populated area except when absolutely necessary.
 21. NO repair of a major nature is carried out to the vehicle with the explosives in it.

22. The vehicle is NOT brought within 87 metres of another vehicle of the same convoy unless this prevents the vehicle from remaining in the convoy.
23. The escort will normally travel in the cab of the vehicle in addition to the driver. When, however, explosives are transported in a vehicle outside an explosives area, one person (and only one) may sit within the vehicle.
24. In the event of a fire on the vehicle, he will take action in accordance with the instructions contained in Appendix 'C' (copy of which has been given to him and the escort) with special reference to the risk involved as referred to in the extracts and explained to him before commencements of the journey.

Appendix 'C'

INSTRUCTIONS ON FIRE ACTION TO DRIVERS/ESCORTS OF ROAD VEHICLES CARRYING MILITARY EXPLOSIVES

1. Your vehicle (No _____) carries Explosives of Fire Division _____. The risk associated with these Explosives when involved in fire and the fire fighting action to be taken, are detailed below:

Fire Division

Nature of Risk

Fire Action

2. Ensure that no fuel is carried in the vehicle except in the fuel tank.
3. Before driving off, check your fire extinguisher. See that it is filled, mounted ready to your hand and in good working order. See your vehicle is clear of combustible materials.
4. Keep clear of any other vehicle on fire by 87 metres. If the vehicle on fire contains explosives, do NOT get your vehicle nearer than 275 metres.
5. If a fire breaks out on the vehicle, **YOU MUST ACT QUICKLY.**
6. If your engine, petrol or oil system catches fire, get busy with your fire extinguisher, first closing the cut off, if fitted. If your vehicle catches fire, get busy with your fire extinguisher and any water you can get.
7. If fire is detected early, the prompt application of the fire extinguisher may prevent the development of a serious fire and consequent explosive/detonation.
8. Should you succeed in extinguishing the fire, examine the vehicle and its contents carefully, to see that there is **NO** smouldering before proceeding on your journey.
9. If you **CANNOT** put out the fire, **YOU HAVE TO THINK AND ACT QUICKLY.** Send the escort to alarm the area and to convey the news to the Police and any Fire Section in the vicinity as quickly as possible and inform them of the Fire Action detailed in para I in respect of your vehicle. With the help of passers-by, stop traffic and keep the road and vicinity clear of all unnecessary personnel for 275 metres from the vehicle. If you are in a town or village and if you can safely drive the vehicle into open country, do so.
10. So long as the fire is **NOT** actually affecting the packages or loose weapons, there is **NO** immediate danger.

**INSTRUCTIONS REGARDING LOADING, UNLOADING AND
CONVEYANCE OF EXPLOSIVES IN VEHICLES**

1. Loading/unloading will be carried out under the direct supervision of a responsible person.
2. The person-in-charge will ensure that the various provisions mentioned in the text of these regulations have been complied with.
3. Before loading is commenced, the interior of the vehicle will be thoroughly cleaned to render it free from dust, oily rags/cotton waste and other combustible material. On NO account will explosives be loaded into a vehicle which is contaminated with tar, oil, paint or similar substances.
4. Explosives will not be unloaded or piled near the exhaust of a vehicle.
5. After loading/unloading has commenced, the work, as far as possible, will be completed without interruption. If the work is to be interrupted, the vehicle will NOT be left unattended.
6. During loading/unloading, explosives will be protected from rain, snow or prolonged direct exposure to sun.
7. Before loading/unloading, the engine of the vehicle will be switched off.
8. Fuel tanks will NOT be filled when the engine is on or when loading/unloading explosives.
9. The packages containing explosives will be Approved Service packages. They will bear labels, stenciling or marking by branding showing the Groups under which the explosives have been classified and that the explosives in the packages are Military explosives.

NOTE: Nominal packages certified by a competent authority as safe for transport may also be treated as approved packages for purposes of these Regulations.

10. The packages are in sound condition.
11. All packages in the vehicle will be well secured and effectively protected against theft and sabotage. All unboxed projectiles will be properly loaded and securely scotched to protect them from damage and to avoid rolling or movement.
12. The tail board at the rear of the vehicle will be well secured.
13. Appropriate fire-class symbol indicating the fire-class of explosives loaded in the vehicle will be suitably displayed on the vehicle by the side of the red flag.

14. At the time of unloading, the packages will be examined for any evidence of theft/sabotage. Broken or doubtful packages, if found will be set aside for examination. The attention of the driver and/or escort will be drawn to these and any statement made by them/him will be recorded.
15. After unloading, the inside of the vehicle will be thoroughly cleaned especially in the case of vehicles carrying WP ammunition.

CHEES, DRDO

Appendix 'E'

HAZARD DIVISION SIGNS FOR USE ON ROAD RAIL TRANSPORT



Note :- The Compatibility Group letters which follow the Hazard Division numerals are purely examples.

These signs have minimum dimensions of:

| | | |
|-----------------------------|---|-------|
| Sides | = | 250mm |
| Orange Outer Border | = | 5mm |
| Black Borders | = | 5mm |
| Hazard Division Numerals | = | 75mm |
| Compatibility Group Letters | = | 75mm |
| UN Class No. | = | 25mm |

For road transport two of the above signs will be displayed, one on each side of the vehicle.

For freight containers and rail wagons, 4 of the above signs will be displayed, one on each side and one at each end.

Transportation of large Rocket Motors without nozzle (Dia. > 300 mm, Wt. >500 kg) :

- (1) The articles should be transported without pyrotechnics, nozzle and igniter and the nozzle port should be covered.
- (2) Strict compliance to safety provisions as stipulated in para 5-8 and para 39 to 53.
- (3) For security and Administrative arrangements, strict compliance to safety provisions as stipulated in para 32 to 38 should be observed.
- (4) Non-splinter type glass shall be used for front wind screens and windows
- (5) The whole unit of the silencer and the exhaust pipe shall be positioned in front of the fire screen.
- (6) The exhaust pipe shall be fitted with the approved type of spark arrester.
- (7) The body and cab shall be painted with light green/olive color. Vehicles holding inter state or national permits shall be painted as per road transport authority.
- (8) A 100 mm wide red band painted on either side and back of the vehicle with the word "Explosives" above the band should be displayed.
- (9) The following First aid Fire Fighting equipment and appliances should be catered for during transportation:
 - a) Fire extinguishers, Mechanical foam (AFFF) type, 9 lit capacities (BIS-10204)-01 No.
 - b) Fire extinguishers, dry chemical powder ABC type (2171/138/49/14609)-2 kg capacity-2 Nos.

Transportation of large Rocket Motors with nozzle (Dia. > 300 mm, Wt. >500 kg) :

- (1) Strict compliance to safety provisions as stipulated in para 5-8 and para 39 to 53.
- (2) For security and Administrative arrangements, strict compliance to safety provisions as stipulated in para 32 to 38 should be observed.
- (3) Non-splinter type glass shall be used for front wind screens and windows.
- (4) The whole unit of the silencer and the exhaust pipe shall be positioned in front of the fire screen.
- (5) The exhaust pipe shall be fitted with the approved type of spark arrester.
- (6) The body and cab shall be painted with light green/olive color. Vehicles holding inter state or national permits shall be painted as per road transport authority.
- (7) A 100 mm wide red band painted on either side and back of the vehicle with the word "Explosives" above the band should be displayed.
- (8) The following First aid Fire Fighting equipment and appliances should be catered for during transportation:
 - a) Fire extinguishers, Mechanical foam (AFFF) type, 9 lit capacities (BIS-10204)-01 No.
 - b) Fire extinguishers, dry chemical powder ABC type (2171/138/49/14609)-2 kg capacity- 2 Nos.