

52,910 LB.  
24,000 KG.  
4,890 LB.  
2,220 KG.  
48,020 LB.  
21,780 KG.

# *Transporting* **FIREWORKS**

*by* **ROAD**





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## About this guide

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Transporting fireworks presents an inherent risk to the driver and the community, particularly where regulation and industry best practices are not actively followed.

This guide summarises the essential transport requirements to help firework operators, pyrotechnicians, drivers and others involved in loading and transporting fireworks.

### Laws and other guidance

You should read this guide in conjunction with:

- Dangerous Goods (Road and Rail Transport) Act and Regulations 2010
- Explosives Act and Regulations 2012
- Security-sensitive Dangerous Substances Act and Regulations 2005

You can find these laws at [www.thelaw.tas.gov.au](http://www.thelaw.tas.gov.au)

You should also read the Australian Code for the Transport of Explosives by Road and Rail, Third Edition (AE Code). You can find this at the Safe Work Australia website at [www.safeworkaustralia.gov.au](http://www.safeworkaustralia.gov.au) by searching for 'AE Code'.

### Definitions/abbreviations used in this guide

AE Code Australian Code for the Transport of Explosives by Road and Rail, Third Edition

HD Hazard Division

NEQ Net Explosives Quantity

SSDS Security-sensitive dangerous substance

This guide was produced by staff from WorkSafe Tasmania.

We welcome your feedback on this guide: [wstinfo@justice.tas.gov.au](mailto:wstinfo@justice.tas.gov.au)

## Risk categories

Transporting explosives (including fireworks) is divided into three risk categories.

As shown below, Risk Categories 1, 2 and 3 refer to low, medium and high risk loads respectively.

Table 1 Risk Categories for Transport of Explosives

| Hazard Division    | Quantity per vehicle (NEQ) |                 |                 |
|--------------------|----------------------------|-----------------|-----------------|
|                    | Risk Category 1            | Risk Category 2 | Risk Category 3 |
| HD 1.1             | ≤5 kg                      | >5–250 kg       | >250 kg         |
| HD 1.2             | ≤5 kg                      | >5–250 kg       | >250 kg         |
| HD 1.3             | ≤50 kg                     | >50–1,000 kg    | >1,000 kg       |
| HD 1.4 except 1.4S | ≤250 kg                    | >250 kg         | Not applicable  |
| 1.4S               | Any quantity               | Not applicable  | Not applicable  |

Source: AE Code

Note: Fireworks typically fall into Hazard Division 1.3 and 1.4

# Driver training and licensing

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## Training

Contractors, operators and shot-firers (pyrotechnicians) transporting fireworks in Risk Category 2 and 3 quantities must be trained in:

- the duties and obligations set out in the AE Code
- the hazardous properties of the fireworks they are transporting
- the appropriate containers and placarding of vehicles for transporting fireworks
- using the fire extinguishers carried on the vehicle
- procedures for responding to a fireworks incident
- security awareness and transit storage requirements.

The owner of the road vehicle who employs anyone to drive a vehicle transporting fireworks must maintain records of this training.

## Licensing

Driver and vehicle licensing is required for transporting fireworks at certain Risk Categories:

- Dangerous Goods Driver Licence (Explosives) required at Risk Category 3
- Dangerous Goods Vehicle Licence (Explosives) required at Risk Categories 2 and 3.

## Type 3 fireworks

Type 3 fireworks — also known as 'professional display' or 'large event' fireworks — are also defined as SSE or Security-sensitive Explosives.

If you carry out any activity (including transport) with Type 3 fireworks, you **must** possess an SSDS Permit and operate in according to your approved 'security plan'. For more information, go to <http://workplacestandards.tas.gov.au> and search for 'SSDS permit'.

# Compatible loads

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## Load quantity classification

Where a load of fireworks contains mixed Hazard Divisions (HDs), the HD for the total load is determined by the highest hazard division — except for mixed transport of HD 1.2 and 1.3 fireworks, which must be treated as if it were HD 1.1 fireworks.

When transporting firework loads that exceed 500kg (gross) or 250kg (net explosives quantity, or NEQ), the load (by default) is classified by WorkSafe Tasmania as HD 1.1G, irrespective of individual explosive packaging classifications.

## Packaging

Except for 1.4S fireworks, fireworks must be transported in approved packaging and/or superior packaging that is correctly marked and labeled in accordance with the AE Code. The superior package (such as a carry-box) must be of suitable design and construction.

## Segregating fireworks

Fireworks must not be transported on the same vehicle as other incompatible dangerous goods and fire risk substances.

# Vehicle requirements

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## Vehicle standards and design

Vehicles transporting fireworks must comply with the AE Code, and be mechanically sound and clean.

Interior surfaces of the vehicle in contact with the fireworks (as packed) must be in good condition and free from any defects or projections likely to damage the packages.

Enclosed body vehicles or receptacles attached to a vehicle must be lined with wood or other material that provides equivalent non-sparking properties.

Where Risk Category 2 loads of fireworks are transported in sealed packages, in an enclosed portion of a road vehicle, a carry box is not required. However, the fireworks must be stowed so they cannot move within the vehicle.

Receptacles, carry boxes or other enclosed bodies containing fireworks must be lockable.

Fireworks must not be carried in the passenger compartment or be accessible from the cabin of the vehicle.

Vehicles transporting placard loads at Risk Category 2 and/or Risk Category 3 quantities must carry:

- fire extinguishers (dry chemical powder):
  - Category 2: minimum of 1 x 30B
  - Category 3: minimum of 1 x 10B (in cabin) plus 2 x 40B (or 1x80B)
- three double sided reflector signals
- a pair of wheel chocks
- an intrinsically safe torch.

Vehicles transporting Risk Category 3 be fitted with:

- fire screens
- electrical wiring in conduit
- a battery isolation switch and cover.

## Placarding road vehicles

Vehicles transporting Risk Category 2 or 3 loads must be placarded.

Placards must be removed or obscured when the vehicle no longer carries fireworks.

Risk Category 2 and 3 vehicles must be placarded front and rear with 250 mm Class labels appropriate to the highest classification and compatibility group of the fireworks. For example, if 1.1G, 1.3G and 1.4G fireworks are to be transported, the vehicle must be placarded as 1.1G once the total quantity exceeds 5 kg NEQ.

In addition, all four sides must be placarded with the word 'EXPLOSIVES' in red letters 150 mm high on a white background.

Vehicles transporting fireworks over 1,000 kg NEQ (except HD 1.4) must be placarded at the front with a 250 mm class label and on all four sides with the word 'EXPLOSIVES' in red letters 150 mm high on a white background.

In addition, the sides and rear of the vehicle must be placarded with 800 x 600 mm emergency information panels.



## Marking freight containers

Freight containers carrying Risk Category 2 or 3 loads must be marked on all four sides with class labels in accordance with the AE Code.

Freight containers carrying loads greater than 1,000 kg NEQ (except HD 1.4) require an 'emergency information panel' on each of their longer sides.

## Carrying documentation

Vehicles transporting fireworks must carry:

- an emergency procedure guide for the fireworks being transported, or a copy of the Standard HB 76: 2010 Dangerous Goods – Initial Emergency Response Guide. To purchase this, go to the SAI Global website at <http://infostore.saiglobal.com> and search for 'HB 76'; and
- a shipping document identifying:
  - UN classification
  - UN numbers
  - shipping names
  - number of packages
  - quantity (NEQ)
  - types of fireworks
  - names of consignor and consignee.

# Stowage and loading

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## Safe stowage and load security

Packages of fireworks and fireworks equipment must be stowed and secured on a vehicle in accordance with the current edition of the National Transport Commission's Load Restraint Guide. To find this guide, go to [www.ntc.gov.au](http://www.ntc.gov.au) and look under the 'quick links' heading.

The friction and impact sensitivity of fireworks, and the potential for leaking composition from fireworks/packages, are inherent risks that must always be considered during transport.

Packages must be kept away from heavy articles or equipment likely to damage them.

Packages of different shapes or containing different materials must be stowed to prevent them damaging one another.

The fireworks load must not project horizontally beyond the vehicle.

## Precautions during loading and unloading

Fireworks packages must not be dropped, thrown or otherwise mishandled while loading or unloading a vehicle.

Fireworks must not be loaded or unloaded during thunderstorms.

## Transport prohibitions

Carrying reusable mortars loaded with aerial shells on public roads is strictly prohibited.

However, this does not apply to ground level fireworks and barrages that are manufactured articles consisting of pre-loaded, single-use mortars as supplied by the manufacturer or supplier.

Passengers not directly assisting with the fireworks event are not permitted on a vehicle transporting fireworks.

Vehicles containing fireworks must not be left unattended.

# Transport requirements and procedures

## Controlling ignition sources

Ignition sources must be controlled to prevent accidentally igniting the fireworks, including:

- not smoking within six metres of any vehicle containing fireworks
- not carrying matches and cigarette lighters in the vehicle unless they are in a sealed container in the glovebox
- not taking electronic equipment such as mobile phones, radio transmitters and pagers into the fireworks-carrying compartment.

## Parking vehicles

The driver of a vehicle transporting fireworks (other than HD 1.4) must take all practicable steps to avoid being in close proximity to any other placarded explosives/ dangerous goods vehicles (other than when overtaking or passing).

Except for stops necessary to comply with legal requirements or caused by a breakdown, drivers of vehicles carrying a placard load (other than HD 1.4) should ensure that:

- vehicles do not remain stationary in a public place within a town or city
- Risk Category 3 loads are parked with battery isolation switches left open
- no temporary stops (less than one hour) are made within 100 metres of protected works, except for refueling (see below)
- no stops for long periods (more than one hour) are made within ten metres of a road, street, source of ignition, railway, or within the distances listed in Table 2.

Table 2 Distances (in metres) between protected works and stationary road vehicles carrying Risk Category 2 or 3 loads of explosives

| Hazard Division Assigned to Load | Quantity of Explosives on Vehicle (kg) |               |                  |                    |                     |                      |                      |
|----------------------------------|--|---------------|------------------|--------------------|---------------------|----------------------|----------------------|
|                                  | ≤ 25                                   | > 25<br>- 250 | > 250<br>- 1,000 | > 1,000<br>- 5,000 | > 5,000<br>- 10,000 | > 10,000<br>- 20,000 | > 20,000<br>- 40,000 |
| I.1                              | 100                                    | 150           | 200              | 400                | 500                 | 600                  | 750                  |
| I.2                              | 150                                    | 200           | 200              | 250                | 300                 | 300                  | 350                  |
| I.3                              | n/a                                    | 60            | 60               | 100                | 150                 | 200                  | 200                  |
| I.4                              | n/a                                    | n/a           | n/a              | n/a                | n/a                 | n/a                  | n/a                  |

Source: AE Code

## Refuelling vehicles

It is good practice to get fuel for the vehicle before it is loaded. If refueling is required during a long journey, then it must be done:

- in a remote location
- with the engine switched off
- without any ignition sources within six metres of the vehicle
- without mobile phones and radio transmitters being used
- when there is no thunderstorm activity.

## Vehicle breakdown

The driver of a vehicle carrying a placard load that has broken down must alert other road users by:

- switching on the flashing hazard lights; or, if there are no hazard lights, the parking lights, unless the battery has been disconnected to avoid danger
- placing double-sided reflector signals on the ground at right angles to the traffic flow:
  - between 50 and 150 metres in front of the vehicle
  - between 50 and 150 metres behind the vehicle
  - beside the vehicle on the side facing the traffic.

The owner of the broken down vehicle must ensure the vehicle is either:

- repaired to the extent that it may be removed safely from the road as soon as possible, and adequate precautions are taken during repairs to ensure the safety of the vehicle and fireworks on board; or
- towed in a safe manner to a secure place of repair as soon as possible.

Before towing the vehicle, consider moving it to a safe area and transferring the fireworks to another suitable vehicle.

The owner must advise the tow truck operator of the hazards associated with the fireworks on board the broken down vehicle.

Where vehicle towing is required for a Type 3 firework load, a person suitably approved/endorsed must stay with the load.

# Placarding for Risk Category 2 and 3 vehicles

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## Explosives signs

- Required on all four sides of vehicle.
- 150 mm lettering.
- Red on white background.



## Class I diamond labels

- Required on front and rear of vehicle.
- 250 mm Class labels appropriate to the highest classification and compatibility group of the fireworks.




Division 1.1, 1.2 and 1.3



Division 1.4

## Emergency information panels for loads over 1,000kg NEQ

- Freight containers carrying Risk Category 2 or 3 loads must be marked on all four sides with class labels, in accordance with the AE Code.
- Freight containers carrying loads greater than 1,000 kg NEQ (except HD 1.4) require an emergency information panel on each of their longer sides:

|  |             |   |
|--|-------------|---|
| <b>FIREWORKS</b>   |             |  |
| UN No.   | <b>0335</b> |   |
| HAZCHEM  | <b>E</b>    |   |
| <b>IN EMERGENCY DIAL<br/>000, POLICE or<br/>FIRE BRIGADE</b> |             | <b>SPECIALIST ADVICE<br/>ABC<br/>FIREWORKS Pty Ltd<br/>(03) 12345 67</b>          |

This emergency information panel must be 800 x 600 mm (see the AE Code for full dimensions).

## Examples of vehicles for small consignments of fireworks



*Receptacle*



*Enclosed body*



*Receptacle*

## CHECKLIST: Transporting fireworks

Vehicle placards

EXPLOSIVES



Transport documents (an emergency procedure guide for the fireworks being transported, or a copy of HB 76: 2010 Dangerous Goods – Initial Emergency Response Guide; and shipping document:



Fire extinguishers

1 x 30B DCP fire extinguisher (Risk Category. 2); or

1 x 10B (in cabin), plus 2 x 40B (or 1x80B) (Risk Category 3)

2 x wheel chocks

3 x double sided reflector signals

Intrinsically safe torch

Battery isolation switch and cover (Risk Category 3)

SSDS Permit (Type 3 Fireworks: use, transport and storage)

Dangerous Goods Vehicle Licence: Class 1 (Risk Categories 2 and 3)

Policy of insurance or an equivalent indemnity, approved by WorkSafe Tasmania (Risk Category 2 = \$2,500,000; Risk Category 3 = \$5, 000,000)

Copy of AE Code

Access to relevant legislation

Carry boxes or enclosed body vehicle, lockable and conforming to AE Code

Fireworks not carried in passenger compartment or accessible from vehicle cabin

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