



## Dangerous goods safety information sheet

### Explosives transport requirements under AEC3

#### *Legislative amendments*

On 25 November 2009, the Dangerous Goods Safety (Explosives) Regulations 2007 were amended to adopt the third edition of the *Australian Code for the Transport of Explosives by Road and Rail (AEC3)*, published in 2009.

The requirements under the second edition of the *Australian Code for the Transport of Explosives by Road and Rail (AEC2)*, published in 2000, applied until 31 December 2009. Compliance with AEC3 is mandatory from 1 January 2010.

Significant changes between the second and third edition of the Code are listed below.

#### *Changes to explosives transport requirements*

The key changes are summarised below.

- New high security risk category for explosives, including requirements for security plans and increased security for the explosives.
- Changes to some Risk Category 1, 2 and 3 quantity limits and segregation quantity limits.
- Increased assessment and training requirements for explosives vehicle drivers.
- Increased insurance or indemnity requirements.
- New Australian Standard requirements for locks.
- Increased security and safety requirements for detonators, including 1.4S detonators.
- Changes to package labelling, transport (shipping) documentation and placarding.

Most of the changes between AEC3 and AEC2 are identified in Table 1. Please consult the relevant sections of AEC3 to identify specific actions that may apply to your activity.

Table 1 Comparison of explosives transport requirements under AEC3 and AEC2

Relevant part of AEC3	Requirement in AEC3	How the change differs from AEC2
Chapter 1	Various definitions revised for clarification Insertion of new definitions where applicable	Some definitions lacked clarity
Table 2.1	Risk Category quantity limits have changed: 1.4S detonators are subject to the same quantity limits as 1.4B detonators New Risk Category 2 and 3 limits apply for Division 1.5 explosives	Any quantity of 1.4S detonators was treated as Risk Category 1 No Risk Category 3 limit existed for Division 1.5 explosives
Section 2.4 and Table 2.2	Implementation of quantity limits triggering high security risk requirements	Not specified
Section 3.2.1(2)(g)	Net explosive quantity (NEQ) of the substance and number of articles must be identified on outer packaging of explosives	Not specified
Section 3.2.2(1)(c)	NEQ of the substance and number of articles must be identified on inner packaging of explosives	Not specified
Section 3.2.8	Labels and markings identifying packages as containing explosives (e.g. class diamonds, "EXPLOSIVES" label) must be removed or obliterated when packaging is empty and free of explosives and explosive residue	Not specified
Section 3.4.1(1)	Placards and "EXPLOSIVES" signage must be reflective	Signage did not have to be reflective
Chapter 4	Various revisions and new requirements clarifying the acceptable format for transport (shipping) documentation	Used to be called "shipping documents" Some details for these documents were unclear or did not exist
Chapter 5	Various revisions and new requirements for packaging	Some details were unclear or did not exist
Section 6.1.1	Specific requirements pertain to locking mechanisms Must comply with the referenced Australian Standards	Not specified
Section 6.2(1)(h)	Portable magazines may be carry boxes if they comply with carry box requirements	Not specified
Section 6.4.1(1)	Passenger compartment must not be used for transport of any explosives, including detonators	Passenger compartment could be used for transport of detonators
Sections 6.2(3) and 6.4.1(1)	Explosives must not be accessible from cabin of vehicle	Not specified

Relevant part of AEC3	Requirement in AEC3	How the change differs from AEC2
Section 7.2.1(7)	Pallet jacks, conveyor rollers or other heavy equipment must <b>not</b> be transported with detonators or fireworks If transported with other explosives, then the equipment must be secured from movement and segregated by a partition from the explosives	Broad requirement for explosives to be kept away from heavy articles that could cause damage
Section 7.3.1(2)	Explosives must not be transported in the same <i>compartment</i> as domestic, commercial or industrial refuse or waste	Broad requirement not allowing explosives on the same <i>vehicle</i> as domestic, commercial or industrial refuse or waste
Section 7.3.1(3)	Explosives must not be transported on the same vehicle <i>or combination vehicle</i> as other classes of dangerous goods or fire risk substances or any other materials likely to cause, communicate or intensify fire (see AEC3 for specific exceptions)	Restriction prohibiting transport of explosives with other classes of dangerous goods applied only to vehicles and did not extend to combination vehicles
Section 7.3.1(3)(a)	Clarification of the types of ammonium nitrate and other compounds that may be transported with explosives	Broad references to ammonium nitrate Other specific compounds not included
Section 7.3.1(3)(d)	Where dangerous goods are carried as tools of trade, the quantity must not exceed 1 kilogram or litre and they must be in a separate compartment from the explosives	Not specified
7.3.1(4)	Quantity limits for which segregation exemptions apply have changed 5 kg limit for 1.2G explosives, minimum limit no longer applies to 1.4S detonators, provided placarding is not required by either AEC3 or the ADG Code*	Quantity limit for 1.2G explosives was 50 kg All 1.4S explosives (including detonators) were unlimited ADG Code was not mentioned
Section 7.3.2 (6)	Changes to the transport of 1.1B detonators on same vehicle as explosives includes: i. a specific reference to 1.1B detonators, ii. Risk Category 1 upper limit for the detonators, and iii. detonators must be separated from explosives by at least 2 m (detonators are <b>not</b> allowed be stowed in the passenger compartment of a vehicle)	Non-specific for 1.1B detonators A Category 2 upper limit for detonators was permitted Detonators were allowed be stowed in the passenger compartment of a vehicle
Section 7.3.2(8)	Placarding of vehicle must reflect predominant characteristics of combined load	Not specified
Section 7.3.2(9)	Detonator compartments of mixed loads must be identified accordingly	Not specified
Section 7.4.3	Improved clarification regarding the determination of the total explosives load of <i>Division 1.1 or 1.5 explosives</i> when carrying ammonium nitrate (AN), AN mixtures and AN emulsions (UN number is referenced)	Only a general clause pertaining to all explosives, instead of just Division 1.1 and 1.5 explosives UN number was not referenced for the type of AN emulsion

Relevant part of AEC3	Requirement in AEC3	How the change differs from AEC2
Section 8.2.2(2)	Explosives must <b>not</b> be transported in a vehicle carrying passengers for reward or hire	1.4S explosives were allowed in vehicles carrying passengers for reward or hire
Section 8.2.3	Applicants for explosives driver's licences will be subject to a review of their offences and convictions, driving history, criminal history and politically motivated violence occurring during the previous 10 years (e.g. police clearance and ASIO check) If the history is deemed to be unsuitable, the applicant must not be authorised to transport explosives Applicants seeking renewal are also subject to this review	Not specified
Section 8.2.7(5)	Prime contractors must be appropriately identified and authorised before offering or consigning explosives to them	Not specified
Section 8.2.10(3)	Items such as cigarettes and matches must be carried in a sealed container <i>that will prevent the spread of fire</i>	No specific requirement for the sealed container to prevent the spread of fire
Section 8.2.14	Receptacles, carry boxes and enclosed vehicle bodies must be locked at all times when explosives are inside (except during loading and unloading)	Not specified
Section 8.2.15	Recorded checks must be performed during journey to ensure that the security of the receptacle, carry box or enclosed vehicle body has not been breached	Not specified
Section 8.2.16	Persons having unsupervised access to explosives must be security cleared	Not specified
Section 8.2.17	All persons engaged in the transport of explosives (consignee, consignor, prime contractor, driver, loading and unloading personnel) must consider security requirements as relevant to their duties	Not specified
Section 8.2.18	New precautions for use of explosives transport vehicles of all risk categories, including: <ul style="list-style-type: none"> <li>i. not to be left unattended</li> <li>ii. parked at least 5 m from combustibles including tall, dry vegetation</li> <li>iii. remain under supervision for 15 minutes after engine has stopped to watch for brake or tyre fires</li> </ul>	Not specified
Section 8.3.5(2)	Insurance amounts are \$2,500,000 per event for Risk Category 2 loads, and \$5,000,000 per event for Risk Category 3 loads	Insurance amounts were \$1,000,000 per event for Risk Category 2 loads, and \$2,500,000 per event for Risk Category 3 loads

Relevant part of AEC3	Requirement in AEC3	How the change differs from AEC2
Section 8.3.5 [AEC2 – Section 8.3.5(5) removed]	Clause deleted – exemptions are no longer available for self-insurers All road vehicles must be covered by a policy of insurance or indemnity	Self-insurers could seek exemption from requirement that road vehicles be covered by a policy of insurance or indemnity
Section 8.3.9(4)(f)	Torch must be intrinsically safe, complying with Australian Standard AS/NZS 60079.11 (when transporting explosives in bulk)	Electric torch
Section 8.3.11(5)	Children are not permitted to ride in an explosives transport vehicle unless on the authority of the police, emergency services personnel or a dangerous goods officer	Children were not specifically excluded from riding in the vehicle
[AEC2 – Section 8.3.11(9) removed]	Clause deleted – 100 km/hr speed limit removed (but must comply with posted speed limits)	100 km/hr speed limit applied for Risk Category 2 and 3 loads
Table 8.1	Minimum quantity of explosives used to determine distances between stationary vehicles and protected works has been revised to align with Risk Category 2 or 3 load quantities (the table does not apply to Risk Category 1 quantities below 5 kg for Division 1.1, 1.2 and 1.6 explosives)	The minimum quantity of explosives used to determine distances between stationary vehicles and protected works was “less than or equal to 25 kg”, which caused confusion because it erroneously implied that the table was to be used for Risk Category 1 loads of Division 1.1, 1.2 and 1.6 explosives
Section 8.3.13(e)	Persons transporting explosives must be trained in the elements of security awareness and how to address and minimise security risks Refresher courses are to be conducted	Not specified
Section 8.3.13(2)	Records of all driver security awareness training must be maintained	Not specified
Section 8.3.13(4)	Drivers and all other persons on explosives transport vehicles must carry photo identification during transport	Not specified
Section 8.4.3(b)	Explosives transport licence applicants must have held a driver’s licence for at least 12 months and performed 50 hours under the direct supervision of a licensed explosives driver experienced in transporting explosives	Instead of requiring 50 hours of performance under the required supervision, the applicant required 12 months’ experience driving the class of vehicle for which authorisation was sought
Section 8.4.3(d)	Drivers transporting Risk Category 3 loads of explosives must pass a doctor’s examination against the “Assessing Fitness to Drive” medical standard <i>Note: State legislation may apply this medical requirement to all drivers, regardless of the Risk Category of explosives being transported</i>	A standardised medical assessment was not specifically identified as a requirement

Relevant part of AEC3	Requirement in AEC3	How the change differs from AEC2
Section 8.4.4(2)	Driver's attendant, or compliant mobile communication system, required when transporting Risk Category 3 loads for journeys of 5 km or greater <i>Note: the load quantity limits have been removed – all Risk Category 3 loads transported 5 km or more require a driver's attendant or mobile communication system</i>	Driver's attendant required if journey was 5 km or greater <i>and the load contained 1,000 kg or more of Division 1.1 explosives or 20,000 or more items of 1.1B detonators</i>
Section 8.8.2	Implementation of security plans and other requirements for high security risk loads; in summary, the plan must address: <ul style="list-style-type: none"> <li>i. measures for preventing the theft and unauthorised access to explosives</li> <li>ii. vehicle design and load securing requirements</li> <li>iii. emergency communication</li> <li>iv. driver training, including dealing with safety and security emergencies</li> <li>v. determination of the safest practicable transport routes</li> <li>vi. procedures for the testing, evaluation, review and update of the security plan</li> <li>vii. implementation and maintenance of the security plan</li> <li>viii. control of unsupervised access to explosives and security clearances</li> </ul>	Not specified <i>Note: Although security plans were not required by AEC2, the Dangerous Goods Safety (Explosives) Regulations 2007 does require security plans (explosives management plans) for the transport of all types and quantities of explosives, except for those types and quantities exempted under the Regulations</i>
Section 8.8.3	High security risk loads of explosives must be transported in compliance with the security plan	Not specified
Section 8.8.4	Owner of a vehicle and prime contractor must have a system in place, independent of the driver, to monitor and record the location of a vehicle transporting high security risk loads of explosives	Not specified
Section 8.8.5	Only those people operating under a relevant security plan may be involved in the transport and security of a high security risk load of explosives	Not specified
Section 8.8.6	Anyone who drives or rides in a vehicle that is transporting high security risk loads of explosives, or is escorting such a vehicle (passengers included), must be security cleared	Not specified

ADG Code = Australian Code for the Transport of Dangerous Goods by Road and Rail