



Advisory Circular

AC 139-12(0)

NOVEMBER 2011

HANDLING OF HAZARDOUS MATERIALS ON AN AERODROME

CONTENTS

1. References	1
2. Purpose	1
3. Status of this advisory circular	1
4. Acronyms	2
5. Definitions	2
6. Background	2
7. Particulars to be included in the aerodrome manual	3
8. Procedures for the handling of hazardous materials	4
9. Hazardous materials transported by air	3
10. Rating of explosives	4
11. Further information	6

1. REFERENCES

- Regulation 139.095 of the Civil Aviation Safety Regulations 1998 (CASR 1998)
- Part 92 of CASR 1998

2. PURPOSE

Some aerodromes are used by aircraft engaged in the transportation of hazardous materials. This publication provides guidance to Aerodrome Operators on aerodrome administration and operating procedures for the handling of hazardous materials on the aerodrome. This publication does not apply to non flammable agricultural chemicals. These materials are regulated by State or Territory jurisdictions.

3. STATUS OF THIS ADVISORY CIRCULAR

This is the first Advisory Circular (AC) to be issued on this issue. This AC supersedes Civil Aviation Advisory Publication (CAAP) 89I-1(2).

Advisory Circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.

Where an AC is referred to in a 'Note' below the regulation, the AC remains as guidance material.

ACs should always be read in conjunction with the referenced regulations.

This AC has been approved for release by the Executive Manager Standards Development and Future Technology Division.

4. ACRONYMS

AC	Advisory Circular
ARFFS	Aviation Rescue and Fire Fighting Services
CAAP	Civil Aviation Advisory Publication
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulations 1998
HD	Hazard Divisions
ICAO	International Civil Aviation Organization
NEQ	Net Explosive Quantity

5. DEFINITIONS

5.1 As defined in CASR 139.095 and for the purposes of this document:

Hazardous Materials means explosives, flammable liquids and solids, corrosive liquids, compressed gases and magnetised or radioactive materials.

6. BACKGROUND

The Rules

6.1 Regulation 139.090 of CASR 1998 requires the operator of a certified aerodrome to have an aerodrome manual, prepared in accordance with Regulation 139.095 of CASR 1998. Regulation 139.095 of CASR 1998 requires the aerodrome manual to include the particulars of the aerodrome administration and operating procedures regarding the handling of hazardous materials.

6.2 The Aerodrome Manual must include (as per CASR 139.095 (n)):

- The names, telephone numbers and roles of the persons who are to receive and handle hazardous materials.
- The arrangements for special areas on the aerodrome to be set up for the storage of flammable liquids (including aviation fuels) and any other hazardous materials;
- The methods to be followed for the delivery, storage, dispensing and handling of these materials;

Note: The arrangements to deal with an accidental spillage of hazardous materials are to be set out in the aerodrome emergency plan.

6.3 Regulation 139.260 of CASR 1998 requires operators of aerodromes seeking registration to provide the Civil Aviation Safety Authority (CASA) with information about ground services available to visiting pilots including:

- the types of aviation fuel available and contact details for fuel suppliers; and
- information about any special procedures that pilots need to observe or follow.

6.4 Part 92 of CASR 1998 specifies the conditions under which hazardous materials may be transported by aircraft.

7. HAZARDOUS MATERIALS TRANSPORTED BY AIR

7.1 The dangerous goods list is based on the ICAO Technical Instructions (ICAO TIs) for the Safe Transport of Dangerous Goods by Air.

7.2 The list includes hazardous materials which are either:

- permitted for transport by air within Australian airspace without reference to CASA subject to the air operator complying with the technical requirements of Part 92 of CASR 1998 (refer to AC 92A-01 (0)); or
- forbidden for transport by air within Australian airspace unless written permission by CASA is obtained (refer to AC 92-04 (0)).

7.3 Before CASA issues such a permission, it should be satisfied that, among other considerations, the aerodromes nominated in the flight operations have been contacted and determined suitable for the loading and unloading, or transit of hazardous materials and that the safety distance requirements can be met.

8. INFORMATION TO BE CONSIDERED FOR INCLUSION IN THE AERODROME MANUAL

8.1 The International Civil Aviation Organization (ICAO) recommends the provision of an isolated parking position on an aerodrome suitable for the parking of an aircraft which needs isolation from normal aerodrome activities. Care should be taken to ensure that the position is not located over underground utilities such as gas and aviation fuel and, to the extent feasible, electrical or communication cables.

8.2 Provision of an isolated parking position is a matter for the aerodrome operator however such a position may be ideal for the parking of and for the loading and unloading of hazardous materials laden aircraft.

8.3 The location of the designated isolated parking positions, where provided, should be identified in a plan of the aerodrome and included in the aerodrome manual. Aerodrome staff and Air Traffic Control should be advised of the location of the isolated parking position.

8.4 In addition the following information should be considered for inclusion in the aerodrome manual where appropriate:

- Specific information regarding the types of aviation fuels available at the aerodrome and the contact number for the fuel supplier.
- Any special procedures (if any) to be followed by operators of hazardous materials laden aircraft.
- Details of the maximum quantity of hazardous material the aerodrome operator will permit on the aerodrome and the procedures for dealing with hazardous material laden aircraft.
- The times during which hazardous material laden aircraft may or may not be permitted to use the aerodrome, to minimise the risk to the travelling public and other aerodrome users.

9. PROCEDURES FOR THE HANDLING OF HAZARDOUS MATERIALS

9.1 Whether an aerodrome operator should accept hazardous material laden aircraft is a matter for the aerodrome operator to determine. Although the consignor/consignee of the hazardous materials or the aircraft operator carrying the hazardous materials is responsible for the handling, the aerodrome operator has a responsibility to ensure the appropriate procedures are established to protect other aerodrome users in the event of an accidental detonation, spill or exposure.

9.2 The procedure should identify specific areas where hazardous material laden aircraft may be held and processed. The most effective way to ensure that other aerodrome users will not be harmed by accidental detonation, spill or exposure of the hazardous materials is to keep the aircraft away from other aerodrome users.

9.3 Table 1 of this AC (below) provides the recommended safety distances between a hazardous materials laden aircraft and other aerodrome facilities.

9.4 Table 2 of this AC (below) provides for assessment of mixed hazard division loads.

9.5 Based on the information contained in the two Tables, the aerodrome operator should assess the maximum amount of hazardous material that an aircraft operating into the aerodrome may transport at any one time.

10. IDENTIFICATION OF MISCELLANEOUS HAZARDOUS MATERIALS

10.1 Aerodrome operators need to be aware whether there are other hazardous materials contained within the boundaries of the aerodrome that are not specifically aviation related but may pose a threat to the safe operation of the aerodrome.

10.2 In particular, aerodrome operators should ensure that underground services such as gas, water, sewer, electricity and other relevant underground services are mapped, recorded in the aerodrome manual where applicable, and the information made available to aerodrome employees conducting construction and maintenance work on the aerodrome. In addition this information should be made available to the Aviation Rescue and Fire Fighting Services (ARFFS) where applicable.

10.3 A survey of all aerodrome businesses should be considered to identify any hangars or other sites where large quantities of hazardous materials may be regularly stored or used in the day to day running of the business, and the information recorded within the aerodrome manual and passed to the ARFFS where applicable.

11. RATING OF EXPLOSIVES

11.1 Danger posed by explosives is rated under a classification system termed 'Hazard'.

11.2 Divisions of Hazard's are prescribed in the ICAO TIs. Explosive substances are classified in Hazard Divisions (HD) and some are forbidden from transport by air, unless approved by CASA. These explosives require special handling due to their composition which will have one or more of the following characteristics:

- a mass explosion hazard;
- a fragmentation hazard;
- able to transmit detonation to secondary explosives in close proximity; or
- will detonate or burn rapidly.

Net Expl Qty (NEQ) (KG)	Hazard Division 1.1, 1.2 and 1.5		Hazard Division 1.3 Propellant and non-propellant	
	Passenger Terminals and Runways	Other inhabited buildings, taxiways and public roads	Passenger Terminals and Runways	Other inhabited buildings, taxiways and public roads
25	270	180	50	30
200			60	40
500			80	50
1000			90	60
2000	270	180	100	70
3000	300	200	110	80
5000	380	250	120	90
10000	480	320	150	120
20000	600	400	200	150

Table 1 – Safety Distance (metres) Between Explosive Laden Aircraft and Other Aerodrome Facilities

Notes:

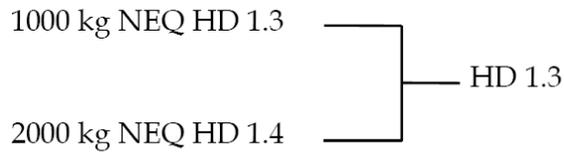
- (i) *Explosive laden aircraft should not be parked, loaded or unloaded in front of glass constructed passenger terminals. Where this is unavoidable, the recommended safety distance should be doubled.*
- (ii) *For Net Explosive Quantity (NEQ) less than 25 kg, safety distances less than those recommended above may be used by aerodrome operators with due consideration for safety.*
- (iii) *HD 1.4 and 1.6 explosives may be handled without the need for safety distances.*
- (iv) *Safety distances recommended in the table apply to active runways, taxiways and public roads.*
- (v) *The separation distance for intermediate quantities of explosives may be obtained by interpolation.*
- (vi) *Definition of HD 1.1, 1.2, 1.3 and 1.5 is contained in the ICAO TIs. Details of the HD of the explosives transported should be made available by the consignor/consignee of the explosives or the aircraft operator carrying the explosives.*

Division	1.1	1.2	1.3	1.4	1.5	1.6
1.1	1.1	1.1	1.1	1.1	1.1	1.1
1.2	1.1	1.2	1.1	1.2	1.1	1.1
1.3	1.1	1.1	1.3	1.3	1.1	1.3
1.4	1.1	1.2	1.3	1.4	1.5	1.4
1.5	1.1	1.1	1.1	1.5	1.5	1.5

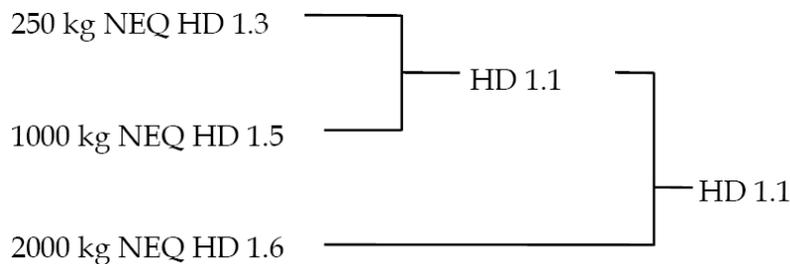
Table 2 – Determination of Hazard Division for Loads Containing More Than One Hazard Division

11.3 When more than two HD are present in any load, two HD shall be considered in determining a resultant HD which should then be considered with the next HD and so on until all HD present in the load have been considered, as shown in the examples below:

Example 1



Example 2



12. FURTHER INFORMATION

12.1 For further information relating to this AC, please contact the local Aerodrome Inspector on 131757; or

12.2 Enquiries regarding the carriage of Dangerous Goods on an aircraft or Dangerous Goods matters in general should be referred to dg@casa.gov.au or by contacting a Dangerous Goods Inspector on 131757.

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