



DRAFT

Advisory Circular

AC 139-12(0)

SEPTEMBER 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	2
8. Procedures for the handling of hazardous materials	3
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.

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 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
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 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.

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

6.2 Regulation 139.260 of CASR 1998 requires 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.

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

7. PARTICULARS TO BE INCLUDED IN THE AERODROME MANUAL

7.1 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.

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

7.3 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.

7.4 In addition to the information above the manual should include:

- The names, telephone numbers and roles of aerodrome staff who are able to receive and handle hazardous materials. These persons must undertake Dangerous Goods Training.
- The methods to be followed for the delivery, storage, dispensing and handling of these materials.
- Specific information regarding the types of aviation fuels available at the aerodrome and the contact number for the fuel supplier.
- Any special procedures to be followed by operators of hazardous materials laden aircraft.
- Details of the maximum quantity of hazardous material permitted 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.

8. PROCEDURES FOR THE HANDLING OF HAZARDOUS MATERIALS

8.1 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 are 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.

8.2 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.

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

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

8.5 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.

9. HAZARDOUS MATERIALS TRANSPORTED BY AIR

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

9.2 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; or

- forbidden for transport by air within Australian airspace unless written permission by CASA is obtained.

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

10. RATING OF EXPLOSIVES

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

10.2 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:

- 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.*
- 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.*
- HD 1.4 and 1.6 explosives may be handled without the need for safety distances.*

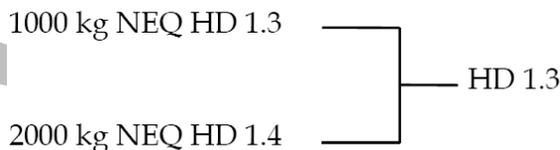
- (iv) *Safety distances recommended in the table apply to active runways, taxiways and public roads.*
- (v) *The separation distance for intermediate quantities of explosives may be obtained by interpolation.*
- (vi) *Definition of HD 1.1, 1.2, 1.3 and 1.5 is contained in the ICAO TIs. Details of the 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

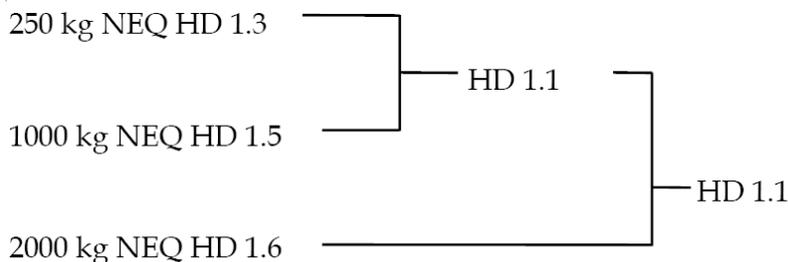
Table 2 – Determination of Hazard Division for Loads Containing More Than One Hazard Division

10.3 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



11. FURTHER INFORMATION

11.1 For further information relating to this AC, please contact the Dangerous Goods/Cabin Safety Specialist in CASA's Operational Standards Section on 131 757.

Executive Manager
Standards Development and Future Technology

September 2011

DRAFT