



Civil Aviation Safety Authority  
of Papua New Guinea

# Advisory Circular

## AC92-3

### Carriage of Explosives and Motor Spirit

Issue 1  
31 October 2022

#### GENERAL

Civil Aviation Safety Authority Advisory Circulars (AC) contain information about standards, practices and procedures that the Director has found to be an Acceptable Means of Compliance (AMC) with the associated rule.

An AMC is not intended to be the only means of compliance with a rule, and consideration will be given to other methods of compliance that may be presented to the Director. When new standards, practices or procedures are found to be acceptable, they will be added to the appropriate Advisory Circular.

#### PURPOSE

This Advisory Circular provides methods, acceptable to the Director, for showing compliance with the exceptions for the carriage of dangerous goods requirements of Part 92 and explanatory material to assist in showing compliance.

#### RELATED CAR

This AC relates specifically to Civil Aviation Rule Parts 92 rule 92.11(b).

#### CHANGE NOTICE

This AC replaces the Initial Issue dated 01 July 2002.

#### APPROVAL

This AC has been approved for publication by the Director of Civil Aviation

## TABLE OF CONTENTS

<b>1.</b>	<b>Introduction .....</b>	<b>3</b>
<b>2.</b>	<b>Purpose.....</b>	<b>3</b>
<b>3.</b>	<b>Application for and Scope of Approval .....</b>	<b>3</b>
<b>4.</b>	<b>General Limitation.....</b>	<b>3</b>
<b>5.</b>	<b>Carriage of Explosive Articles.....</b>	<b>3</b>
5.1	Packaging.....	3
5.2	Storage, Loading, Unloading and Stowing .....	4
5.3	Aircraft Operation.....	5
<b>6.</b>	<b>Carriage of Motor Spirit .....</b>	<b>5</b>

## 1. Introduction

Part 92 rule 92.11(b) provides an exception for the carriage of Class 1 or other Class of Dangerous goods without complying with Part 92 if—

- (a) approval is obtained from the Director; and
- (b) safety and emergency procedures are established for the carriage of the goods; and
- (c) the goods are—
  - (1) in a proper condition for carriage by air; and
  - (2) stowed and secured for safe carriage.

## 2. Purpose

The purpose of this AC is to provide information to operators as to which dangerous goods the Director is prepared to approve under the authority of 92.11(b) and the technical and operational requirements to be met by the operator.

## 3. Application for and Scope of Approval

Operators wishing to seek approval under 92.11(b) should address the following technical and operational requirements in their application to the Director.

This AC addresses approvals that may be granted under 92.11(b) for the carriage of—

- (1) articles classified as ‘explosives’ and listed as ‘Forbidden’ in columns 9 and 10 of Part 3 of the Technical Instructions that are marketed for general sale as a commercial explosive in Papua New Guinea; and
- (2) increased net quantity of motor spirits, petrol or gasoline.

In considering an application for approval to transport the above articles by air, the Director will take into account the practical availability of alternate means of transport and the safety of persons and property on the ground.

## 4. General Limitation

Any approval granted under 92.11(b) will limit the carriage of the dangerous goods to cargo aircraft only.

## 5. Carriage of Explosive Articles

### 5.1 Packaging

In addition to complying with the packing requirements of the Technical Instructions, explosives of the kind referred to in paragraph 2, other than detonators, shall comply with the following packing requirements—

- (a) they shall be packed in undamaged and unstained boxes as received from the manufacturer, or in a portable magazine approved for the purpose by the Director.
- (b) deflagration explosives such as ‘Black Powder’, ‘Blasting Powder’ or ‘Gun Powder’ shall have an outer container at least equivalent to 4C2 wooden box (specified in Part 6, Chapter 3, paragraph 3.1.8 of the Technical Instructions) with no steel fasteners or parts. In all cases, the outer container

shall show absolutely no seepage, sifting or other sign of leaking of the contents.

- (c) in addition to bearing the applicable 'EXPLOSIVE' label, the outer container shall be legibly and durably marked with the word 'EXPLOSIVE', the trade name of the explosives and the name of their manufacturer.
- (d) the outer container shall bear the 'CARGO AIRCRAFT ONLY' label.

In addition to complying with the packing requirements of the Technical Instructions, detonators shall comply with the following packing requirements—

- (a) the detonators shall be packed in undamaged containers as received from the manufacturer with none of the contents missing unless the container is a portable magazine approved for the purpose by the director.
- (b) each package of plain detonators shall consist of outer and inner containers separated by a distance of at least 75 mm. The outer container shall be constructed of strong cardboard, wood or similar material with no steel fasteners or parts.
- (c) each package of detonators of a type designed to be activated by an electric current, shall have an outer container constructed of strong cardboard, wood or other similar material, with no steel fasteners or parts, and which provides the detonators with full shielding of electrical conductors.
- (d) In addition to bearing the applicable 'EXPLOSIVE' label, the outer container shall be legibly and durably marked with the word 'DETONATORS', the trade name of the detonators, and the name of the manufacturer.
- (e) The outer container of each package shall bear the 'CARGO AIRCRAFT ONLY' label.

## 5.2 Storage, Loading, Unloading and Stowing

The loading of an aircraft, and the unloading of explosives from an aircraft, shall be carried out at safe distances from buildings and from other aircraft and shall comply with any law of Papua New Guinea which relates to the handling of explosives.

Without the express permission of the person in charge of the aerodrome, explosives shall not be stored on or in the vicinity of an aerodrome for more than 1 hour.

Where detonators are carried on board an aircraft they shall be stored in a position which provides optimum preservation of the airworthiness of the aircraft and the safety of persons on board the aircraft in the event of accidental detonation.

Where detonators and other explosives are carried together on board an aircraft, the detonators shall be separated from the other explosive material by an air space or a barrier which will, in the event of accidental detonation, prevent detonator fragments from striking the explosive material. Suitable separation and air space distances and barrier thickness for No. 6 detonators are contained in the following Table 1.

**Table 1.**

QUANTITY OF DETONATORS	MINIMUM SEPARATION	
	AIR SPACE	SAWDUST OR EQUIVALENT (M)
Up to 200	0.60	0.30
Over 200 to 1000	1.50	0.45
Over 1000	3.00	0.60

Where explosives are stowed in a compartment not accessible during flight, no other cargo shall be stowed in the same compartment. The compartment shall contain no substance or equipment capable of causing fire during normal operation or during any malfunction.

### 5.3 Aircraft Operation

A single engine aircraft shall not at any stage of a flight, fly over any town or populous area. A multi-engine aircraft shall not take-off over any town or populous area if the aircraft is not capable of maintaining performance in the event of the failure of one engine.

Where more than 100 kg of explosive material, or in the case of detonators, more than 5000, are carried on board an aircraft, a person additional to the minimum flight crew shall be carried. The additional person shall have sufficient knowledge of the characteristics of the explosives being carried to enable the pilot in command to be advised of suitable action to be taken in any circumstances affecting the safety of the explosives. He shall also ensure that all necessary safety precautions, including those directed by the pilot in command, are carried out. The additional person shall not be required if—

- (1) the owner of the explosives or his employee or agent is carried on the aircraft and that person has the requisite knowledge of the characteristics of the explosives ; or
- (2) the only explosives carried on board the aircraft are stowed in compartments that are inaccessible during flight.

**Note:** *The owner of the explosives or his employee or agent may be carried on board an aircraft carrying less than the quantities of explosives specified above, provided that his purpose to be on board is only to safeguard the explosives.*

Smoking shall not be permitted in the aircraft.

The operator shall be responsible for the safety of the explosives whether or not the owner of the explosives or an employee or agent is on board the aircraft. The operator shall ensure that surveillance of the explosives is maintained continuously during flight except for explosives stowed in compartments inaccessible during flight.

Where more than 100 kg of explosives, or in the case of detonators, more than 5000, are carried on board an aircraft, notification of the flight plan and the nature and quantity of the explosives shall be given to the person in charge of the departure aerodrome, the destination aerodrome and any in-transit or alternate aerodromes, before the explosives are delivered to the departure aerodrome. The person in charge of an aerodrome may specify safe distances to be kept and any other safety precautions he considers necessary in the circumstances of the operation.

## 6. Carriage of Motor Spirit

The maximum net quantity per package of motor spirit, gasoline, petrol or other products included in this classification and defined as 'Flammable Liquids' in the Technical Instructions is 60 ltrs when transported in a 'Cargo' aircraft. This limitation may be approved under 92.11(b) to permit the maximum net quantity per container, carried in a cargo aircraft to be 220 ltrs, subject to the conditions set out in sub-paragraph 6.2.

The containers for motor spirit consigned for carriage on board a cargo aircraft shall comply with the following requirements—

- (a) The containers shall be non-removable-head steel drums which meet or exceed the specification for the 1A1 drums specified in Part 6, Chapter 3, paragraph 3.1.1 of the Technical Instructions.
- (b) The closures in the drum openings shall be screw threaded metal plugs fitted with fuel resisting gaskets properly installed and tightened.
- (c) An overall cap seal of a suitable type shall be properly fitted over each drum plug.