



NOTA DE ESTUDIO

GRUPO DE EXPERTOS SOBRE MERCANCÍAS PELIGROSAS (DGP)

VIGESIMOSÉPTIMA REUNIÓN

Montreal, 16 - 20 de septiembre de 2019

- Cuestión 2 del orden del día:** **Gestión de los riesgos de seguridad operacional específicos del transporte por vía aérea e identificación de anomalías**
- 2.2:** **Formular propuestas de enmienda de las *Instrucciones Técnicas para el transporte sin riesgos de mercancías peligrosas por vía aérea (Doc 9284)*, si se considera necesario, para su incorporación en la edición de 2021-2022**

DISPOSITIVOS DE SEGURIDAD PERSONAL AUTOINFLABLES TRANSPORTADOS POR PASAJEROS O MIEMBROS DE LA TRIPULACIÓN

(Nota presentada por Sam Bitossi)

RESUMEN

En esta nota se propone una enmienda de la Tabla 8-1 de las Instrucciones Técnicas para aumentar el límite actual permitido de un dispositivo de seguridad personal autoinflable por persona, a fin de permitir dos dispositivos de seguridad personal autoinflables por persona, recurriendo al proceso de aprobación del explotador. En esta nota se propone permitir que se lleven dos cartuchos de repuesto por cada dispositivo.

Se ha incluido también texto adicional para aclarar que los dispositivos de seguridad personal autoinflables son dispositivos que la persona va a utilizar.

Medidas recomendadas al DGP: Se invita al DGP a considerar los cambios propuestos en el Apéndice A de esta nota de estudio y, si se aprueban, a enmendar la Tabla 8-1 de las Instrucciones Técnicas para:

- aumentar el límite de un dispositivo de seguridad personal autoinflable a dos dispositivos;
- aumentar el límite de dos cartuchos de repuesto por dispositivo (es decir, un total de no más de cuatro cartuchos por persona);
- considerar texto adicional para aclarar que el dispositivo de seguridad personal es aquél que la persona prevé utilizar.

* Sólo se han traducido el resumen y el Apéndice A.

1. INTRODUCTION

1.1 This is a revised proposal following on from the original proposal submitted to the eighteenth working group meeting of the Dangerous Goods Panel (DGP-WG/18, Montréal, 1 to 5 October 2018) (see paragraph 3.2.2.5 of the DGP-WG/18 Report).

1.2 It is common within Australia for passengers to request the carriage of more than one self-inflating personal safety device, leading to an increase in passengers seeking approval to travel with multiple devices for their own personal use.

1.3 In addition to life-jackets, there are now other self-inflating personal safety devices on the market, such as self-inflating motorcycle jackets, horse riding vests, seniors' hip airbags and bicycle vests.

1.4 This working paper proposes to increase the number of self-inflating personal safety devices (permitted under Table 8-1 with operator approval) from the current allowance of one personal safety device per person, to set a new limit of two personal safety devices per person.

1.5 The existing restriction of two cartridges fitted into each device will remain unchanged.

1.6 For the two devices, proposed wording will be added to allow for up to two spare cartridges per device, with an intended total of no more than four spare cartridges per person.

1.7 The words "no more than two spare cartridges per device" is intentional to clarify that in instances when only one device is being carried, that the carriage of four spare cartridges is not permitted.

1.8 The proposed changes will allow passengers to take two self-inflating personal safety devices within the provisions, reducing the likelihood of the passenger hiding extra devices within checked baggage.

1.9 During the discussion at DGP-WG/18, some panel members expressed the view that further wording is required to clarify that the provision is only intended for self-inflating personal safety devices that are designed to be worn by the person and does not include other safety devices, such as single person life rafts. Subsequently, the wording "intended to be worn by a person" has been added to the descriptor in Table 8-1 for dangerous goods item 12).

1.10 Research has been conducted regarding the capacities of cartridges commonly found within self-inflating personal safety devices. Appendix B to this working paper collates information regarding the various types of self-inflating personal safety devices, their respective CO₂ cartridge information and the methods of activation required for inflation.

1.11 In the report of DGP-WG/18 regarding the discussion of working paper DGP-WG/18-WP/18 (see paragraph 3.2.2.5 of the DGP-WG/18 Report), the panel queried the absence of a limit on the cartridge size of the existing provision. This paper does not recommend that the DGP set a limit on the cartridge size for the following reasons:

- a) the current technology for self-inflating personal safety devices does not demand the use of larger cartridges at this time, with the cartridge sizes detailed in Appendix B remaining minimal in fluid capacity (100 ml or less)*;

- b) the size of the cartridge required for the device to function to their design varies; and, taking into consideration the current fluid capacity data within Appendix B, there isn't a safety need identified at this stage to support setting a capacity limit;
- c) approval of the operator is required, which allows the device (including any cartridges) to be risk assessed by the operator at that point in time.

**Note.— The information in Appendix B also demonstrates that the fluid capacity of cartridges is not necessarily directly related to the cartridges' size or weight.*

1.12 Self-inflating personal safety devices are designed with multiple actions required for inflation to be achieved. These features act as a failsafe when carried as baggage and the likelihood of a device unintentionally self-inflating or activating during flight would be very unlikely.

1.13 There have been no known record of safety concerns or reports of unintentional activation of self-inflating personal safety devices inflight, when carried by passengers or crew under the provisions of Table 8-1.

1.14 However, if activation did occur, the consequence would be insignificant, with any release of energy likely contained within a passenger's bag, having little to no effect on the aircraft and its occupants.

1.15 The entry in Table 8-1 for self-inflating personal safety devices should continue to exclude devices that contain explosives (such as avalanche backpacks) to ensure a thorough review of such items is conducted on a case-by-case basis.

2. ACTION BY THE DGP

2.1 The DGP is invited to consider increasing the current limit of one self-inflating personal safety device to allow for a maximum of two self-inflating personal safety devices and if agreed, amend Table 8-1 of the Technical Instructions as shown in Appendix A.

2.2 The DGP is invited to consider the additional wording to clarify that no more than two spare cartridges per device may be carried and if agreed, amend Table 8-1 of the Technical Instructions as shown in Appendix A.

2.3 The DGP is invited to consider the proposed wording to clarify that the self-inflating personal safety device is one that is intended to be worn by the person and if agreed, amend Table 8-1 of the Technical Instructions as shown in Appendix A.

APÉNDICE A

PROPUESTA DE ENMIENDA DE LA PARTE 8 DE LAS INSTRUCCIONES TÉCNICAS

Parte 8

DISPOSICIONES RELATIVAS
 A LOS PASAJEROS Y A LA TRIPULACIÓN

Capítulo 1

DISPOSICIONES PARA MERCANCÍAS PELIGROSAS
 TRANSPORTADAS POR LOS PASAJEROS
 O LA TRIPULACIÓN

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1.1 MERCANCÍAS PELIGROSAS TRANSPORTADAS POR LOS PASAJEROS O LA TRIPULACIÓN

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Tabla 8-1. Disposiciones relativas a mercancías peligrosas transportadas por los pasajeros o la tripulación

Mercancías peligrosas	Ubicación		Se requiere aprobación del explotador	Restricciones
	Equipaje facturado	Equipaje de mano		
Gases en cilindros y cartuchos				
...				
12) Cartuchos de la División 2.2 sin peligro secundario colocados en un dispositivo de seguridad personal autoinflable <u>que la persona prevé utilizar</u> , como un chaleco salvavidas	Si	Si	Si	a) no más de un <u>dos</u> dispositivo de seguridad personal por persona; b) <u>el los dispositivos</u> de seguridad personal <u>deben</u> estar embalado <u>s</u> de manera tal que no puedan <u>accionarse</u> accidentalmente; c) deben ser para que se inflen <u>el los dispositivos</u> ; d) no más de dos cartuchos contenidos en <u>el cada</u> dispositivo; y e) no más de dos cartuchos de repuesto <u>por dispositivo</u> .
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APPENDIX B

SELF-INFLATING PERSONAL SAFETY DEVICE AND GAS CARTRIDGE INFORMATION

The following are examples of self-inflating personal safety devices with their respective CO₂ cartridge information and the methods of activation for each device required for inflation:

Self-inflating personal safety devices	Method(s) of Activation	Weight of cartridge (g)	Number of cartridges fitted into device	Fluid capacity (ml)
Life-jacket (Infant 89N)	— Water activated or — Activation via manually pulling toggle	9 g*	2	12 ml
Life-jacket (Child 80N)		17 g*	1	23 ml
Life-jacket (Adult 150N)		16 g*	2	21 ml
Life-jacket (Adult 156N) – General Aviation		16 g*	2	21 ml
Life-jacket (Adult/Child 169N)		16 g*	2	21 ml
Life-jacket (Adult 100-110N)		24 g*	1	33 ml
Life-jacket (Adult 150N)		33 g*	1	45 ml
Life-jacket (Adult 200N)		38 g*	1	53 ml
Life-jacket (Adult 275-280N)		60 g*	1	82 ml
Equestrian vest (Child S/M)	— Lanyard connecting rider to saddle via stirrup strap, activation via pulling lanyard in process of rider separating from horse (lanyard requires min. 30kg pull to activate)	155 g	1	50 ml
Equestrian vest (Child L, Adult S/M/L/XL)		185 g	1	60 ml
Equestrian vest (Adult LL/XLL)		305 g	1	100 ml
Motorcycle vest (Child S/M)	— Lanyard connecting rider to bike, activation via pulling lanyard in process of rider separating from bike (lanyard requires min. 30kg pull to activate)	155 g	1	50 ml
Motorcycle vest (Child L, Adult S/M/L/XL)		185 g	1	60 ml
Motorcycle vest (Adult LL/XLL)		305 g	1	100 ml
Bicycle vest	— Sensor attached to underside of saddle (small lithium-thionyl chloride battery 2.7Wh) remains dormant until activation	185 g	1	60 ml

Self-inflating personal safety devices	Method(s) of Activation	Weight of cartridge (g)	Number of cartridges fitted into device	Fluid capacity (ml)
	during an accident, main board in vest turns on when zipped up (lithium ion battery 8.51Wh) and activates inflation only when sensors on saddle detect motion and separation from the sensors in rider's vest			
Seniors Hip Airbag (T1/XS)	— Hip air bag switched on by fastening the clip, activation uses algorithm (contains lithium ion battery 8.51Wh) which analyses motion and fall in context together	155 g	1	50 ml
Seniors Hip Airbag (T2-T5/S-XL)		185 g	1	60 ml

* Fill coefficient between 0.73g-0.78g per ml. An average of 0.75g per ml applied.