منظمة الطيران المدني الدولي

ورقة عمل

DGP/28-WP/37*
26/7/21

فريق خبراء البضائع الخطرة

الاجتماع الثامن والعشرون

اجتماع افتراضي، من ١٥ إلى ٢٠٢١/١١/١٩

البند رقم ٢ من جدول الأعمال: **إدارة المخاطر المتعلقة بالسلامة الجوية وتحديد أوجه التعارض (المرجع: REC-A-DGS-2023)**

البند رقم ٢-٢: **إعداد ما يلزم من اقتراحات لتعديل وثيقة "التعليمات الفنية للنقل الآمن للبضائع الخطرة بطريق الجو" (Doc 9284) لإدخالها في طبعة ٢٠٢٣-٢٠٢٤**

أحكام تتعلق ببرّادات الإنسولين المحمولة العاملة ببطاريات الليثيوم والتي يحملها الركاب

(ورقة مقدَّمة من ب. غوو)

الموجز

تقترح ورقة العمل هذه إضافة برّادات الإنسولين المحمولة التي تعمل ببطاريات الليثيوم إلى الأحكام المتعلّقة بالبضائع الخطرة التي يحملها الركاب وأعضاء الطاقم والواردة في الجدول ٨-١ من التعليمات الفنية.

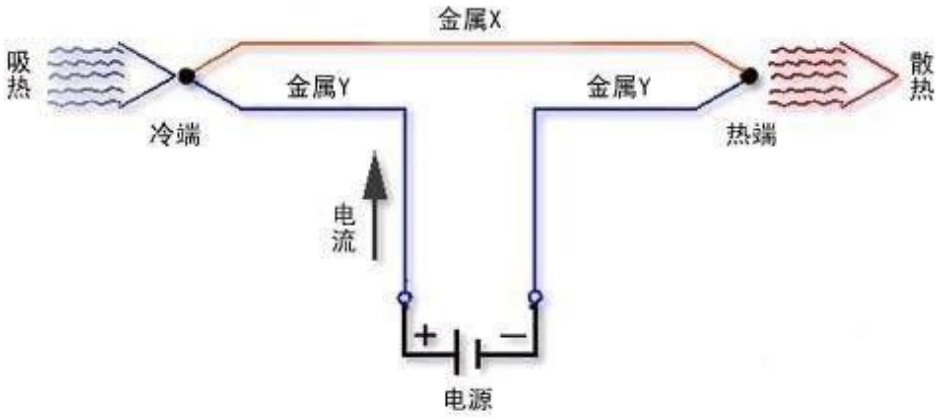
الإجراء المعروض على فريق خبراء البضائع الخطرة: يُرجى من فريق الخبراء أن ينظر في إضافة برّادات الإنسولين المحمولة التي تعمل ببطاريات الليثيوم إلى الأحكام المتعلّقة بالبضائع الخطرة التي يحملها الركاب وأعضاء الطاقم والواردة في الجدول ٨-١ من التعليمات الفنية، على النحو المُبيّن في المرفق بهذه الورقة.

1. INTRODUCTION

1.1 Some passengers may carry portable insulin refrigerators powered by lithium batteries on board aircraft. Portable insulin refrigerators are used to store medicine such as insulin that needs to be kept at certain temperatures. At present, lithium batteries used in portable refrigerators are about 10200 mAh, which is about 51 Wh with the output voltage of 5 V. Examples of insulin refrigerators are shown in the figure below:

* تُرجم موجز ورقة العمل فقط.

1.2 This type of insulin refrigerator is an electronic semiconductor refrigerator, which can be powered by external power source or a lithium battery. The electronic semiconductor refrigerator uses special semiconductor materials to achieve the ultimate goal of cooling and heating through different current flows. By this cooling method, the electronic semiconductor refrigerator can cool and heat with the operating temperature range of 5°C to 65°C. Therefore, the electronic semiconductor refrigerator can be classified as a battery-powered portable electronic device. The working principle of the electronic semiconductor refrigerator is shown in the figure below:



1.3 The provisions to aid recognition of undeclared dangerous goods in Part 7;6 of the Technical Instructions indicate that refrigerators may contain liquefied gases or an ammonia solution. It is quite possible to mistake this type of lithium battery-powered insulin refrigerator as “refrigerators”, and there are no relevant provisions for dangerous goods carried by passengers or crew in Table 8-1. As a result, this lithium battery powered portable insulin refrigerator may be mistaken as a “refrigerator” and denied carriage by the passenger on board the aircraft.

1.4 In view of the reasonable need for passengers to keep insulin cool and the fact that such lithium battery powered potable insulin refrigerators are portable electronic devices, small portable refrigerators should be permitted on board.

2. ACTION BY THE DGP

2.1 The DGP is invited to consider adding lithium battery powered insulin refrigerators to the provisions for dangerous goods carried by passengers or crew contained in Table 8-1 of the Technical Instructions as shown in the appendix to this working paper.

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APPENDIX

PROPOSED AMENDMENT TO PART 8 OF THE TECHNICAL INSTRUCTIONS

Part 8

PROVISIONS CONCERNING PASSENGERS AND CREW

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Chapter 1

PROVISIONS FOR DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

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Table 8-1. Provisions for dangerous goods carried by passengers or crew

Dangerous Goods	*Location*		*Approval of the operator(s) is required*	*Restrictions*
	Checked baggage	*Carry-on baggage*		
Batteries				
. . .				
4) Mobility aids (e.g. wheelchairs) powered by: – spillable batteries; – non-spillable wet batteries; – dry batteries; – nickel-metal hydride batteries; or lithium ion batteries	Yes	(see e))	Yes	a) for use by passengers whose mobility is restricted by either a disability, their health or age, or a temporary mobility problem (e.g. broken leg); b) the passenger should make advance arrangements with each operator and provide information on the type of battery installed and on the handling of the mobility aid (including instructions on how to isolate the battery); c) in the case of a dry battery or nickel-metal hydride battery, each battery must comply with Special Provision A123 or A199, respectively; d) in the case of a non-spillable wet battery: i) each battery must comply with Special Provision A67; and ii) a maximum of one spare battery may be carried per passenger; e) in the case of a lithium ion battery: i) each battery must be of a type which meets the requirements of each test in the *UN Manual of Tests and Criteria*, Part III, subsection 38.3; ii) when the mobility aid does not provide adequate

				protection to the battery: — the battery must be removed in accordance with the manufacturer's instructions; — the battery must not exceed 300 Wh; — the battery terminals must be protected from short circuit (by insulating the terminals, e.g. by taping over exposed terminals); — the battery must be protected from damage (e.g. by placing each battery in a protective pouch); and — the battery must be carried in the cabin; iii) a maximum of one spare battery not exceeding 300 Wh or two spare batteries not exceeding 160 Wh each may be carried. Spare batteries must be carried in the cabin.
5) Battery powered semiconductor refrigerator	Yes	Yes	No	Battery powered semiconductor refrigerators, such as insulin refrigerators, when a lithium battery is used for power supply, it must meet the requirements of lithium battery powered portable electronic devices.
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