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

تنقيح احتساب متطلبات القيمة "Q" فيما يخص الفئة UN 3316

(ورقة مقدَّمة من ب. غوو)

الموجز

تتضمن ورقة العمل هذه اقتراحاً بإدخال تنقيحات على متطلبات التعبئة العامة لتوضيح أنه ليس من الضروري احتساب القيمة "Q" عند تعبئة أنواع مختلفة من الفئة UN 3316 – **مجموعات المواد الكيميائية** أو **مجموعات الإسعافات الأولية** في نفس العبوة الخارجية، شريطة أن تستوفي حدود الكمية الصافية للطرود، حتى لو اختلفت الحالات المادية أو مجموعات التعبئة للبضائع الخطرة.

الإجراء المعروض على فريق خبراء البضائع الخطرة: يُرجى من فريق خبراء البضائع الخطرة أن يوافق على مشاريع التعديلات المبيّنة في المرفق بورقة العمل هذه.

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1.   **INTRODUCTION**

1.1   Part 4;1.1.9 e) of the Technical Instructions states that the quantities of different dangerous goods contained in one outer packaging must be such that "Q" does not exceed the value of 1, where "Q" is calculated using the formula: $Q = \frac{n_1}{M_1} + \frac{n_2}{M_2} + \frac{n_3}{M_3} + \cdots$, where n1, n2, etc. are the net quantities of the different dangerous goods and M1, M2, etc. are the maximum net quantities for these different dangerous goods according to Table 3-1 for passenger or cargo aircraft, as applicable. It also states that dangerous goods with the same UN number, packing group, and physical state (i.e. solid or liquid), and the same maximum net quantity according to column 11 or 13 of Table 3-1, do not need to be taken into account in the calculation of the "Q" providing they are the only dangerous goods in the package and the total net quantity does not exceed the maximum net quantity according to Table 3-1.

1.2   Many reagent kits are shipped as UN 3316 — **Chemical kit**. The physical states and/or packing groups applicable to one kit may differ from another, as the components in the kits are different. The following is an example involving two kinds of reagent kits referred to as Type A and Type B:

**Type A** includes 0.4 mL of Class 8 dangerous goods:

Reagent kits Type A
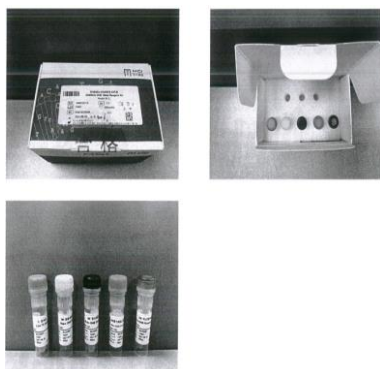
The sample is chemical kit containing 5 kinds (5 tubes) of liquid reagents. The Stop DNB Reaction Buffer (400 μL×1) belongs to dangerous goods of Class 8, Packing Group III, and the other liquid reagents (Low TE Buffer 960 μL×1, Make DNB Buffer 400 μL×1, Make DNB Enzyme Mix I 800 μL×1, Make DNB Enzyme Mix II (LC) (LC) 80 μL×1) are not restricted.
Trademark and Model: MGI FCL;
REF:1000016115;
Specification: 20Rxn/Kit.
This report is attached with pictures.
Flash point: >70℃.

Type B includes 1.5 mL of Class 3 dangerous goods, Packing Group II

Reagent kits type B
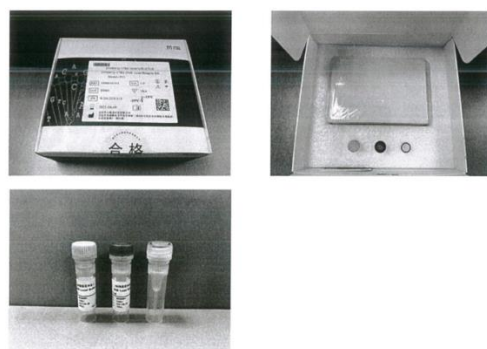
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The sample is chemical kit containing 1 reagent plate(8 kinds(10 slots) of liquid
reagents) and 2 kinds(2 tubes)of liquid reagents.The DNB Loading Reagent 1(in reagent
plate)(1.50mL×1)belongs to dangerous goods of Class 3,Packing Group II,and the other
liquid reagents(1μM AD153 Insert Primer 1 V3.0 1.20mL×1,DNB Washing Buffer 3) 1.20
mL×1,DNB Loading Reagent 2 V3.0 1.20mL×1,Wash Reagent 1 V2.0 4.00mL×1,DNB Washing
Buffer 2 4.00mL×1,DNB Washing Buffer 1 0.90mL×1,MilliQ water 4.00mL×2 and 50.0mL×1)
are not restricted; The 2 kinds of liquid reagents(DNB Load Buffer Ⅰ 300μL×1,DNB Load
Buffer Ⅱ 150μL×1,Micro Tube 0.5mL(Empty) 1 tube))are not restricted.
Trademark and Model: MGI FCL;
REF:1000016114;
Specification: 1 Kit.
This report is attached with pictures.
Flash point: <23℃.
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When twelve Type A kits and twelve Type B kits are packed in the same out packaging for transport, the dangerous goods document may appear as:

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and Type of Packing	Packing Inst.	Aut
UN or ID No.	Proper Shipping Name	Class or Division (subsidiary hazard)	Packing Group			
UN3316	CHEMICAL KIT	9	III	0.0048KG	960	
UN3316	CHEMICAL KIT	9	II	0.018KG	960	
				ALL PACKED IN ONE		
				FIBREBOARD BOX		
				Q=0.1		

Note.— $Q = \dfrac{n_1}{M_1} + \dfrac{n_2}{M_2} = \dfrac{0.0048}{10} + \dfrac{0.018}{10} = 0.00228 = 0.1$

1.1.1   Consider that:

   a)   according to Part 5;4.1.5.1 b), for chemical kits and first aid kits, where the kits contain solids and/or liquids, the net mass of liquids within the kits is to be calculated on a 1 to 1 basis of their volume, i.e. 1 litre equal to 1 kilogram.

   b)   according to Table 3-1, the two kinds of reagent kits have the same maximum net quantity per package, even though their packing groups are different .Which means the "M" is always the same. When the sum "n" does not exceed "M", the "Q" value always less than or equal to "1":

| Chemical kit | 3316 | 9 | | Miscellaneous | A44 A163 | E0 | 960 Y960 | 10 kg 1 kg | 960 | 10 kg |
| First aid kit | 3316 | 9 | | Miscellaneous | A44 A163 | E0 | 960 Y960 | 10 kg 1 kg | 960 | 10 kg |

1.3   It is therefore proposed to clarify that it is not necessary to calculate the "Q" value when different types of UN 3316 — **Chemical kits** or **First aid kits** are packed in the same outer packaging and meet the per package net quantity limits, even if the physical states or packing groups are different.

2.   **ACTION BY THE DGP**

2.1   The DGP is invited to agree to the draft amendments shown in the appendix to this working paper.

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APPENDIX

PROPOSED AMENDMENT TO PART 4 OF THE TECHNICAL INSTRUCTIONS

Part 4

PACKING INSTRUCTIONS

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Chapter 11

CLASS 9 — MISCELLANEOUS DANGEROUS GOODS

…

Chapter 1

GENERAL PACKING REQUIREMENTS

…

1.1.9   Subject to 1.1.8 an outer packaging may contain more than one item of dangerous goods provided that:

…

e)   the quantities of different dangerous goods contained in one outer packaging must be such that "Q" does not exceed the value of 1, where "Q" is calculated using the formula:

$$Q = \frac{n_1}{M_1} + \frac{n_2}{M_2} + \frac{n_3}{M_3} + \ldots$$

where n_1, n_2, etc. are the net quantities of the different dangerous goods and M_1, M_2, etc. are the maximum net quantities for these different dangerous goods according to Table 3-1 for passenger or cargo aircraft, as applicable. However, the following dangerous goods do not need to be taken into account in the calculation of the "Q" value:

1)   carbon dioxide, solid (dry ice), UN 1845;

2)   those where columns 11 and 13 of Table 3-1 indicate "No limit";

3)   those with the same UN number, packing group, and physical state (i.e. solid or liquid) and the same maximum net quantity according to column 11 or 13 of Table 3-1, providing they are the only dangerous goods in the package and the total net quantity does not exceed the maximum net quantity according to Table 3-1.

4)   UN 3316 — **Chemical kit** or **First aid kit**, providing the total net quantity of dangerous goods in the package does not exceed the maximum net quantity according to Table 3-1.

An outer packaging containing Division 6.2 (Infectious Substances) may contain material for refrigeration, or freezing or packaging material such as absorbent material.

Note.— For packages containing radioactive material, see 9.1.3.

— انتهى —