

Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

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Sub-Committee of Experts on the Transport of Dangerous Goods

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Item 2 (i) of the provisional agenda

Explosives and related matters: Miscellaneous

Transport provisions for UN0501 propellant, solid 1.4C

Transmitted by the expert from the United States of America

Introduction

1. The 15th Joint International Conference of the International Group of Experts on the Explosion Risks of Unstable Substances Explosives, Pyrotechnics and Propellants Working Group and the Chief Inspectors of Explosives recently considered the physical characteristics of division 1.4C “Propellant, Solid” and “Powder, Smokeless” with the view of determining comparative risk to better standardize modal transport conditions amongst 1.4C materials.

Discussion

2. An examination of existing transport requirements for division 1.4C dangerous goods has indicated that the entry for UN0501 “Propellant, solid” is unique among the entries for division 1.4C in regards to the maximum quantities that may be offered for transportation in one package by cargo aircraft only. A review of the existing fourteen division 1.4C dangerous goods (see figure 1 for a complete list) revealed that only UN0501 “Propellant, solid” is forbidden for transport on cargo aircraft, whereas the other thirteen division 1.4C dangerous goods are allowed to be offered for transportation by cargo aircraft up to 75 kg per package.

3. Of the fourteen division 1.4C dangerous goods list entries, there are two that cover materials which would be expected to exhibit substantially similar physical characteristics (UN0501 “Propellant, solid”, and the more specific UN0509 “Powder, smokeless”), yet have differing transport provisions. In addition, the generic entry UN0479 “Substance, explosive, n.o.s” may be expected to have the most conservative transport provisions compared to other 1.4C entries, yet only UN0501 is forbidden for transport by cargo aircraft.

4. It is the view of the expert from the United States that “Powder, smokeless” is a specific type of “Propellant, solid” containing nitrocellulose as an essential ingredient, and that the division 1.4C “Propellant, solid” and “Powder, smokeless” characteristics are substantially similar.

5. It is requested that the Working Group on Explosives discuss the physical characteristics of UN0501 and UN0509 and consider whether there is any rationale for UN0501 having modal transport conditions that differ from the substantially similar UN0509 entry. The results of the discussion could be included in the report of the working group and made available to interested modes as appropriate.

Dangerous goods descriptions and proper shipping names	Hazard class or Division	Identification Number	Quantity Limitations	
			Passenger	Cargo
5-Mercaptotetrazol-1-acetic acid	1.4C	UN0448	Forbidden	75 kg
Articles, explosive, n.o.s.	1.4C	UN0351	Forbidden	75 kg
Cartridges for weapons, blank or Cartridges, small arms, blank	1.4C	UN0338	Forbidden	75 kg
Cartridges for weapons, inert projectile or Cartridges, small arms	1.4C	UN0339	Forbidden	75 kg
Cartridges, oil well	1.4C	UN0278	Forbidden	75 kg
Cartridges, power device	1.4C	UN0276	Forbidden	75 kg
Cases, cartridges, empty with primer	1.4C	UN0379	Forbidden	75 kg
Cases, combustible, empty, without primer	1.4C	UN0446	Forbidden	75 kg
Charges, propelling	1.4C	UN0491	Forbidden	75 kg
Model rocket motor	1.4C	NA0276	Forbidden	75 kg
Powder, smokeless	1.4C	UN0509	Forbidden	75 kg
Propellant, solid	1.4C	UN0501	Forbidden	Forbidden
Rockets, with expelling charge	1.4C	UN0438	Forbidden	75 kg
Substances, explosive, n.o.s.	1.4C	UN0479	Forbidden	75 kg
Tetrazol-1-acetic acid	1.4C	UN0407	Forbidden	75 kg

Figure 1
1.4C Dangerous Goods List Entries (Source: 2015-2016 ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air)