**DANGEROUS GOODS PANEL (DGP)**

**MEETING OF THE WORKING GROUP OF THE WHOLE**

**Abu Dhabi, 4 to 8 October 2004**

**Agenda Item 2: Development of recommendations for amendments to the *Technical Instructions* for incorporation in the 2007/2008 edition**
**2.3: Part 3 — Dangerous Goods List and Limited Quantities Exceptions**

# NET QUANTITY FOR GASES

(Presented by J. Abouchaar)

## 1. INTRODUCTION

1.1 The value shown in columns 10 and 12 of Table 3-1, with a few exceptions, for substances in Division 2.1 and 2.2 for Packing Instruction 200 is 75 kg and 150 kg respectively.

1.2 According to Part 3;2.1.1, Column 10 and Column 12, "this column shows the maximum net quantity (mass or volume) of the article or substance allowed in each package… The mass quoted is the net mass unless otherwise indicated by a letter "G"."

1.3 Part1;3.1 Definitions then defines "Net quantity" as:

> Net quantity. The mass or volume of the dangerous goods contained in a package excluding the mass or volume of any packaging material, except in the case of explosives articles and of matches where the net mass is the mass of the finished article excluding packagings.

1.4 Based on the above, the value shown in columns 10 and 12 for gases should then be the maximum net mass of the particular gas that is permitted in a single cylinder, and the net mass of the gas is the value that the shipper must state on the dangerous goods transport document.

1.5 The issue for shippers is that the standard marking on cylinders containing compressed gases in Division 2.2 provides no indication of the net mass of gas in a given cylinder, so they have no way of being able to provide the required information on the dangerous goods transport document. Further, a revue of the mass of gas contained in typical industrial steel cylinders for the following Division 2.2 gases shows:

| Gas | Cylinder Dimensions (Diameter x Height) (cm) | Water Volume (L) | Pressure (kPa) | Gas Volume (L) | Approx. Mass of Full Cyl. (kg) | Mass of Gas (kg) |
|---|---|---|---|---|---|---|
| **Argon** | 24 x 144 | 49.0 | 16,548 | 8,240 | 80 | 13.9 |
| **Helium** | 24 x 144 | 49.0 | 16,548 | 8,240 | 68 | 1.4 |
| **Nitrogen** | 24 x 144 | 49.0 | 16,548 | 8,600 | 76 | 10.2 |
| **Oxygen** | 24 x 144 | 49.0 | 16,548 | 7,100 | 75 | 8.4 |

1.6 Based on the above it would appear that for compressed gases of Division 2.2 at least, that the values in columns 10 and 12 of Table 3-1 should be the mass of the cylinder as prepared for transport, rather than the net mass of the gas as currently required.

## 2. PROPOSAL

2.1 The Panel is asked to consider amending the entries for Division 2.2 compressed gases to reflect a "G" after the entry in columns 10 and 12 of Table 3-1.

2.2 The Panel is also asked to consider if a full review of all of the net quantity limits should be undertaken for all substances in Division 2.1 and 2.2 to determine if the values shown in Table 3-1 are appropriate.

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