



WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTIETH MEETING

Montréal, 24 October to 04 November 2005

Agenda Item 2: Development of recommendations for amendments to the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284) for incorporation in the 2007-2008 Edition

DANGEROUS EVOLUTION OF HEAT

(Presented by G.A. Leach)

1. INTRODUCTION

1.1 Part 1;2.1 of the Technical Instructions forbids the carriage by air under any circumstance of, *inter alia*, substances which are liable to produce a dangerous evolution of heat. This is a reflection of paragraph 1.1.3.1 of the UN Model Regulations. An enquiry was recently received from a shipper in the United Kingdom who wished to transport a kit comprising of two substances which, when mixed together, caused the evolution of 230° Celsius. It was queried whether this was a “dangerous evolution of heat”. To answer this the classification criteria for UN3258 **Elevated temperature solid, n.o.s.** was considered and in view of the fact that a substance need only be classified as UN3258 if the temperature exceeds 240° Celsius, substances with a lesser temperature are therefore not regulated (from a temperature point of view) and so the substance in question was judged not to produce a “dangerous evolution of heat”. This issue highlights the subjectivity of Part 1;2.1 which effectively makes this text unenforceable and it is suggested consideration be given to addressing this.

1.2 One possibility would be to amend the entries in Table 3-1 for UN3256 **Elevated temperature liquid, flammable, n.o.s.**, UN3257 **Elevated temperature liquid, n.o.s.**, and UN3258 **Elevated temperature solid, n.o.s.** such that they would be forbidden for carriage under any circumstance. Part 1;2.1 could then be similarly amended to reflect this, removing the need for any subjectivity. It is suggested such a change would have a minimal effect on multi modal harmonization since it is considered unlikely that such substances (e.g. bitumen) would ever be carried by air. Furthermore, it should be borne in mind that no guidance exists for States in determining what conditions should be included in an exemption, under which these substances could currently travel. Given the potential danger of a leakage of such a substance, it is suggested it would be far safer to forbid the carriage of elevated temperature substances under any circumstance. It is noted that Part 1;2.1

additionally refers to “dangerous emission of toxic, corrosive or flammable gas or vapours” which is also subjective text. However, it is suggested this text may not be possible to clarify in the same way as elevated temperature substances, where straightforward criteria (ie temperature) can be stated.

2. PROPOSAL

2.1 Add a new “Note” to Part 1;2.1 of the Technical Instructions:

Note 2 – For the purposes of these Instructions, a ”dangerous evolution of heat” is considered to apply to substances transported at or capable of evolving a temperature of:

(i) 240° Celsius for solid substances; and

(ii) 100° Celsius for liquid substances.

2.2 Amend Table 3-1 as follows:

1	2	3	4	5	6	7	8	9	10	11	12
Elevated temperature liquid, n.o.s. at or above 100°C and below its flash point (including molten metals, molten salts, etc)	3257	9						FORBIDDEN		FORBIDDEN	
	FORBIDDEN										
Elevated temperature liquid, flammable, n.o.s. with flash point above 60.5°C	3256	3						FORBIDDEN		FORBIDDEN	
	FORBIDDEN										
Elevated temperature solid, n.o.s., at or above 240°C	3258	9						FORBIDDEN		FORBIDDEN	
	FORBIDDEN										