



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)  
MEETING OF THE WORKING GROUP OF THE WHOLE**

**Atlantic City, United States, 4 to 8 April 2011**

**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 2013-2014 Edition**

**2.3: Part 3 — Dangerous Goods List, Special Provisions and Limited and Excepted Quantities**

**REQUIREMENTS FOR HYDROGEN PEROXIDE**

(Presented by Dangerous Goods Advisory Council)

**SUMMARY**

This paper proposes to amend requirements pertaining to hydrogen peroxide in special provision A75.

Action by the DGP-WG is in paragraph 2.

**1. INTRODUCTION**

1.1 Special Provision A75 currently permits sterilization devices containing small quantities of 40 to 60% hydrogen peroxide, UN 2014, to be transported as excepted quantities by passenger and cargo aircraft provided a comparative fire test between outer packages with devices containing hydrogen peroxide solution and similar packages where the devices are filled with water demonstrates there was no discernable difference in fire severity.

1.2 In all likelihood, in the initial tests that led to the requirement for a comparative test, the decision on no discernable difference was made by simple observation. However, if such tests are conducted using more accurate instrumentation, one would expect there to be some discernable difference when burning two identical packages where the only difference is that one contains some quantity of hydrogen peroxide and the other only water. As a practical matter, when test equipment is used, the comparative fire test precludes transport of these small devices under this special provision.

1.3 For transport under United States jurisdiction, through an approval by the United States competent authority, sterilization devices may be transported in identical quantities to those allowed by A75 except that relatively small differences in burning rate tests are permitted. Excerpts from the package's test report are attached to illustrate the integrity provided. It should be noted that integrity is

provided through the excepted quantity provisions in P3;5. This authorization has been in use since the mid 90's with no adverse transport experience. It permits critical health care devices to be transported.

1.4 When comparative fire tests, involving 6 test samples, were conducted on this package, the following differences were noted:

	Average burn time to disintegration, after breach of inners	Maximum test chamber temperature
Package with water	9 minutes 30 seconds	725 °C
Package with H <sub>2</sub> O <sub>2</sub>	5 minutes 7 seconds	900 °C

1.5 While the burning time and maximum temperature were faster and higher for packages containing H<sub>2</sub>O<sub>2</sub>, the differences do not appear significant from the perspective of whether the hydrogen peroxide package should be permitted to be transported by air.

1.6 The comparison appears to suggest the needed level of safety in transporting small quantities of hydrogen peroxide in accordance with A75, is provided through the application of the excepted quantity provisions; and DGAC questions the need for the comparative fire test requirement.

**2. ACTION BY THE DGP-WG**

2.1 The DGP-WG is invited to revise A75 by eliminating the fire test requirement, as follows:

...

A75 Articles such as sterilization devices, when containing less than 30 mL per inner packaging with not more than 150 mL per outer packaging, may be transported on passenger and cargo aircraft in accordance with the provisions in 3;5, irrespective of the value in column 9 and the indication of "forbidden" in columns 10 to 13 of the Dangerous Goods List (Table 3-1), ~~provided such packagings were first subjected to comparative fire testing. Comparative fire testing must show no difference in burning rate between a package as prepared for transport (including the substance to be transported) and an identical package filled with water.~~

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APPENDIX



SECTIONS II & V: PACKAGING DESCRIPTION / COMPONENT DRAWINGS

4 x 1 Plastic Cup inside a Pressed Paper Folding Carton Packaged in a Natural Kraft Corrugated Shipper for 59% Hydrogen Peroxide Product	
ASSEMBLY DRAWING	TEST LEVELS
	Type: Excepted Quantity
	<b>TEST SAMPLE PREPARATION</b> (Refer to Section IV)
	Overall Package Tare Weight: 273 Grams (0.6 Lbs.)
	Package Test Weight: 590 Grams (1.3 Lbs.)
	<b>CLOSING METHODS - INNER PACKAGING</b>
	Samples prepared as for transport by Client.
	Primary Package: Cover fused to container.
	<b>CLOSING METHODS - SHIPPER</b>
	<b>Top Flaps:</b>
	Type: 3M #375 Pressure Sensitive Tape
Width: 48mm	
Overlap: 2" Minimum	
Tape Pattern: Center Seam	
Inner Flaps: Meet	
Outer Flaps: Meet	
<b>Bottom Flaps:</b>	