

DANGEROUS GOODS PANEL

Frankfurt, 16 to 20 September 2002

Agenda Item 2: Development of recommendations for amendments to the Technical Instructions for incorporation in the 2005/2006 edition

DANGEROUS GOODS LIST, WETTED EXPLOSIVES

(Presented by J. Abouchaar)

1. INTRODUCTION

1.1 Reference is made to the report of DGP/18, Appendix C, Amendments to Table 3.1 - Dangerous Goods List. In this report, new UN numbers for Division 4.1 substances (wetted explosives) were added to the Dangerous Goods List. In analyzing the new additions, anomalies were found that are discussed hereafter.

1.1.2 The wetted explosives under review are indicated in the following table:

Ref #	Status	UN No.	Name	Class or Division	SP	Passenger Aircraft			Cargo Aircraft	
						PG	PaxPI	Qty	CarPI	Qty
1a	Existing	0154	Picric acid , dry or wetted with less than 30% water, by mass	1.1D		FORBIDDEN			FORBIDDEN	
1b	New	3364	Picric acid, wetted with not less than 10% water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg
2a	Existing	0154	Trinitrophenol , dry or wetted with less than 30% water, by mass	1.1D		FORBIDDEN			FORBIDDEN	
2b	Existing	1344	Trinitrophenol, wetted with not less than 30% water, by mass	4.1	A40	I	416	1 kg	412	15 kg
2c	New	3364	Trinitrophenol, wetted with not less than 10% water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg

3a	Existing	0155	Picryl chloride	1.1D		FORBIDDEN			FORBIDDEN	
3b	New	3365	Picryl chloride, wetted with not less than 10% water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg
4a	Existing	0155	Trinitrochlorobenzene	1.1D		FORBIDDEN			FORBIDDEN	
4b	New	3365	Trinitrochlorobenzene, wetted with not less than 10% water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg
5a	Existing	0209	TNT, dry or wetted with less than 30% water, by mass	1.1D		FORBIDDEN			FORBIDDEN	
5b	New	3366	TNT, wetted with not less than 10% water, by mass	4.1		I	416	0.5 kg	416	0.5 kg
6a	Existing	0209	Trinitrotoluene, dry or wetted with less than 30% water, by mass	1.1D		FORBIDDEN			FORBIDDEN	
6b	Existing	1356	Trinitrotoluene, wetted with not less than 30% water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg
6c	New	3366	Trinitrotoluene, wetted with not less than 10% water, by mass	4.1		I	416	0.5 kg	416	0.5 kg
7a	Existing	0214	Trinitrobenzene, dry or wetted with less than 30% water, by mass	1.1D		FORBIDDEN			FORBIDDEN	
7b	Existing	1354	Trinitrobenzene, wetted with not less than 30% water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg
7c	New	3367	Trinitrobenzene, wetted with not less than 10% water, by mass	4.1		I	416	0.5 kg	416	0.5 kg
8a	Existing	0215	Trinitrobenzoic acid, dry or wetted with less than 30% water, by mass	1.1D		FORBIDDEN			FORBIDDEN	
8b	Existing	1355	Trinitrobenzoic acid, wetted with not less than 30% water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg
8c	New	3368	Trinitrobenzoic acid, wetted with not less than 10% water, by mass	4.1		I	416	0.5 kg	416	0.5 kg
9a	Existing	0234	Sodium dinitro-o-cresolate dry or wetted with less than 15% water, by mass	1.3C		FORBIDDEN			FORBIDDEN	
9b	Existing	1348	Sodium dinitro-o-cresolate, wetted with not less than 15% water, by mass	4.1 & 6.1 (sub risk)	A40	I	416	1kg	412	15 kg
9c	New	3369	Sodium dinitro-o-cresolate, wetted with not less than 10% water, by mass	4.1		I	416	0.5 kg	416	0.5 kg
10a	Existing	0220	Ureanitate dry or wetted with less than 20% water, by mass	1.1D		FORBIDDEN			FORBIDDEN	
10b	Existing	1357	Urea nitrate, wetted with not less than 20% water, by mass	4.1	A101	I	416	1kg	412	15 kg
10c	New	3370	Urea nitrate, wetted with not less than 10% water, by mass	4.1		I	416	0.5 kg	416	0.5 kg

1.1.3 In comparing the existing wetted explosives in the 2001-02 ICAO Technical Instructions with the new UN entries mentioned in the DGP/18, the following inconsistencies were found:

- a) Of the ten (10) new wetted explosives entries, only four (4) had Special Provision A40 assigned, i.e. UN 3364 (Picric acid and Trinitrophenol) and UN 3365 (Picryl chloride and Trinitrophenol). It was also noted in DGP/18, Item 2.4.8.6 that Special Provision A40 would be assigned to all the wetted explosives entries. That was not followed through for UN 3366, 3367, 3368, 3369.
- b) On a similar note, the new entry for Urea nitrate (UN 3370) was not assigned the Special Provision A101 as the similar existing Urea nitrate entry (UN 1357).
- c) The existing wetted explosive Sodium dinitro-o-cresolate UN 1348 (Ref #9b) requires a water concentration not less than 15% and is classified under Division 4.1 with a toxic sub-risk (6.1). The new entry UN 3369 (Ref #9c) has a water concentration not less than 10% but is classified under 4.1 only. UN 3369 is more concentrated than the existing wetted explosive UN 1348, but does not have the sub-risk 6.1.
- d) Three (3) new Division 4.1 entries (UN 3366, 3367 and 3368) have identical packing group, packing instruction and quantity limitations for passenger and cargo aircraft as the existing Division 4.1 entries (UN 1356, 1354 and 1355, respectively) with the only difference being the water concentration. The new entries require a water concentration not less than 10% while the existing entries require a water concentration not less than 30%. In addition, the Division 1.1D entries of these substances (UN 0209, 0214 and 0215) require a water concentration less than 30%.

The various water concentrations of the same substance overlap and cause confusion. For example, if one was to ship such a wetted explosive with 35% water concentration, both the new and existing Division 4.1 wetted explosives would apply. However in this case, the packing instructions and quantities would be the same. But if one was to ship a wetted explosive with 20% water concentration, both the new Division 4.1 wetted explosive and the existing Division 1.1D wetted explosive which is completely forbidden would apply. Hence, the need for clarification.

- e) There are three (3) cases with double nomenclature entries (Ref #1-6). Picric acid (Ref #1) with Trinitrophenol (Ref #2), Picryl chloride (Ref #3) with Trinitrochlorobenzene (Ref #4) and finally TNT (Ref #5) with Trinitrotoluene (Ref #6). Most entries in the Dangerous Goods List make reference to the proper chemical name.
- f) Trinitrophenol (Ref#2) has three different entries for various water concentrations, however Picric acid (Ref#1), the same substance, has only two entries. The same case applies to TNT (Ref#5) with Trinitrotoluene (Ref#6). It is proposed to add UN 1344 (Ref#2b) as an entry under Picric acid and to add UN 1356 (Ref#6b) as an entry under TNT.

2. PROPOSAL

2.1 The following proposals are described below to resolve the inconsistencies listed above in 1.3.

- a) Add Special Provision A40 to UN 3366, 3367, 3368 and 3369.
- b) Add Special Provision A101 to UN 3370.
- c) Add sub-risk 6.1 to UN 3369.
- d) It is proposed to amend the water concentration of the new UN wetted explosive entries (UN 3366, 3367 and 3368) and to delete the othername description of the Division 1.1D entries for UN 0209, 0214 and 0215. This would eliminate the water concentration overlap. Please refer to the table below for the proposed modifications:

Ref #	Status	UN No.	Name	Class or Division	SP	Passenger Aircraft			Cargo Aircraft	
6a	Existing	0209	Trinitrotoluene	1.1D		FORBIDDEN			FORBIDDEN	
6b	Existing	1356	Trinitrotoluene, wetted with 30% or more water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg
6c	New	3366	Trinitrotoluene, wetted with not less than 10% but less than 30% water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg
7a	Existing	0214	Trinitrobenzene	1.1D		FORBIDDEN			FORBIDDEN	
7b	Existing	1354	Trinitrobenzene, wetted with 30% or more water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg
7c	New	3367	Trinitrobenzene, wetted with not less than 10% but less than 30% water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg
8a	Existing	0215	Trinitrobenzoic acid	1.1D		FORBIDDEN			FORBIDDEN	
8b	Existing	1355	Trinitrobenzoic acid, wetted with 30% or more water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg
8c	New	3368	Trinitrobenzoic acid, wetted with not less than 10% but less than 30% water, by mass	4.1	A40	I	416	0.5 kg	416	0.5 kg

After reviewing the proposed changes above, the need for the existing Division 4.1 entries (UN 1356, 1354 and 1355) requires clarification. Their parameters remain the same as the new entries of UN 3366, 3367 and 3368 with the only difference being the new 10% water concentration. A clarification by the UNSCOE explosive experts is required.

- e) It is proposed that Picric acid, Picryl chloride and TNT refer to their respective proper chemical name. Please see table below for the modifications.

1a	Existing	Picric acid, dry or wetted with less than 30% water, by mass, see Trinitrophenol , dry or wetted with less than 30% water, by mass (UN 0154)
1b	New	Picric acid, wetted with not less than 10% water, by mass, see Trinitrophenol, wetted with not less than 10% water, by mass (UN 1356)
3a	Existing	Picryl chloride, see Trinitrochlorobenzene (UN 0155)
3b	New	Picryl chloride, wetted with not less than 10% water, by mass, see Trinitrochlorobenzene , wetted with not less than 10% water, by mass (UN 3365)
5a	Existing	TNT, dry or wetted with less than 30% water, by mass, see Trinitrotoluene , dry or wetted with less than 30% water, by mass (UN 0209)
5b	New	TNT, wetted with not less than 10% water, by mass, see Trinitrotoluene, wetted with not less than 10% water, by mass (UN 3366)

- f) It is proposed to add the following two entries in Table 3.1:
- Picric acid, wetted with not less than 30% water by mass (UN 1344); and
 - TNT, wetted with not less than 30% water by mass (UN 1356).

	Add	Picric acid, wetted with not less than 30% water, by mass, see Trinitrophenol, wetted with not less than 30% water, by mass (UN 1344)
	Add	TNT, wetted with not less than 30% water, by mass, see Trinitrotoluene, wetted with not less than 30% water, by mass (UN 1356)

- 2.1.2 According to the DGP/18 Report, Item 2.4.8.6, the Secretary was asked to raise the issue of UN 0209, 1356 and 3366 for resolution by the UNSCOE explosive experts. An update is requested in regards to this subject.

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