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COMITÉ D'EXPERTS EN MATIÈRE DE TRANSPORT
DES MARCHANDISES DANGEREUSES

Sous-Comité d'experts du transport
des marchandises dangereuses
(Dix-huitième session, 3-14 juillet 2000,
point 5 a) de l'ordre du jour)

PROJETS D'AMENDEMENTS DIVERS AUX RÈGLEMENTS TYPES SUR LE TRANSPORT DES MARCHANDISES DANGEREUSES

Inscription et classement

Proposition d'inscription d'une nouvelle matière autoréactive

Communication de l'expert des États-Unis d'Amérique

Sur la base des données d'épreuves jointes, l'expert des États-Unis d'Amérique propose d'inscrire la 4-nitrophénylhydrazine mouillée avec 25-35 % d'eau dans la Liste des matières autoréactives du paragraphe 2.4.2.3.2.3, sous la rubrique ci-après :

MATIÈRES AUTORÉACTIVES	Concentration (%)	Méthode d'emballage	Température de régulation (°C)	Température critique (°C)	Rubrique générique ONU	Remarques
4-nitrophénylhydrazine mouillée avec de l'eau	≤ 71	OP7	Néant	Néant	3226	Néant

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TEST REPORT/SUMMARY FOR (4-NITROPHENYL)HYDRAZINE, 25-35% WATER WET

1.	Name of substance	:	(4-nitrophenyl)hydrazine, 25-35% water wet
	General data		
2.1	Composition	:	65-75% (4-nitrophenyl)hydrazine (70.8%); 25-35% water (27.8%)
2.2	Molecular formula	:	C6 H7 N3 O2 . x (H2O)
2.3	CAS registry number	:	100-16-3
2.4	Physical form	:	Solid
2.5	Color	:	Dark orange
2.6	Apparent Density	:	Not available
2.7	Particle size	:	Not available
2.8	Melting point	:	157.5°C
3.	Detonation (test series A)		
	Box 1 of the flow chart	:	Does the substance propagate a detonation?
3.1	Method	:	UN Gap Test (test A.5)
3.2	Sample conditions	:	Ambient temperature
3.3	Observations	:	Tube not fully fragmented but average tube fragmentation is 271.25 mm of length (over 4 trials) which is 1.77X the average inert material (table sugar) fragmentation of 153 mm of length (over 2 trials)
3.4	Result	:	"Partial"
3.5	Exit	:	1.2
4.	Deflagration (test series C)		
	Box 4 of the flow chart	:	Does the substance propagate a deflagration?
4.1	Method 1	:	Time/pressure test (test C.1)
4.2	Sample conditions	:	Ambient temperature
4.3	Observations	:	Did not achieve a pressure rise of 2070 kPa above atmospheric
4.4	Result	:	"No"
4.5	Method 2	:	Deflagration test (test C.2)
4.6	Sample conditions	:	Preheated to 50°C

4.7	Observations	:	Preliminary 14 mm and 28 mm tubes - would not sustain ignition without flame source; Dewar vessel: would not sustain ignition without flame source for 2 trials
4.8	Result	:	"No", no measurable deflagration
4.9	Overall result	:	"No"
4.10	Exit	:	4.3

5. Heating under confinement (test series E)

	Box 8 of the flow chart	:	What is the effect of heating it under defined confinement?
5.1	Method 1	:	Koenen test (test E.1)
5.2	Sample conditions	:	Mass 49.0 to 49.4 g
5.3	Observations	:	Limiting diameter 1.5 mm (time to reaction 121 s)
5.4	Result	:	"Medium"
5.5	Method 2	:	USA pressure vessel test (test E.3)
5.6	Sample conditions	:	Start at ambient temperature, 5.0 g/trial
5.7	Observations	:	1.0 mm: (1) vented, no rupture, (2) Disc rupture; 1.2 mm, 1.5 mm, 2.0 mm, 2.5 mm, 3.0 mm, 3.5 mm: Each of these orifice sizes produced one rupture in one trial; 4.0 mm: (1) vented, no rupture, (2) Disc rupture; 4.5 mm: (1) vented, no rupture, (2) Disc rupture; 5.0 mm: (1) vented, no rupture, (2) vented no rupture, (3) vented, no rupture
5.8	Result	:	USA-PVT number 5.0 ; "Medium" - PVT number is between 3.5 - 8.0
5.9	Overall result	:	"Medium"
5.10	Exit	:	8.2

6. Thermal stability (test series H)

6.1	Method - 77°C	:	Heat accumulation storage test (test H.4) at 77°C
6.2	Sample conditions	:	250 g of substance in 0.5 liter Dewar vessel run at 77°C
6.3	Observations	:	77°C trial: Observed temperature rise greater than 6°C in 3 days

6.4	Result	:	Auto-accelerating decomposition (SADT) is less than 77°C
6.5	Method - 60°C	:	Heat accumulation storage test (test H.4) at 60°C
6.6	Sample conditions	:	255 g of substance in 0.5 liter Dewar vessel run at 60°C
6.7	Observations	:	60°C trial: Observed maximum temperature rise of 3°C in 7 days
6.8	Result	:	Auto-accelerating decomposition (SADT) is greater than 60°C
6.9	Overall result	:	SADT for a 50 kg package is less than 77°C and higher than 60°C. No temperature control required

7. Proposed assignment

7.1	Proper shipping name	:	SELF-REACTIVE SOLID TYPE D
7.2	UN number	:	3226
7.3	Division	:	4.1
7.4	Technical name	:	(4-nitrophenyl)hydrazine, 25-35% water wet
7.5	Concentration	:	65-75%
7.6	Diluent	:	25-35% Water
7.7	Subsidiary risks	:	None
7.8	Packing group	:	II
7.9	Packing method	:	OP7
7.10	Control temperature	:	Not required
7.11	Emergency temperature	:	Not required

CLASSIFICATION OF (4-NITROPHENYL)HYDRAZINE, 25-35 WATER WET