

## Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods

12 June 2012

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Item 3 (b) of the provisional agenda

**Listing, classification and packing: miscellaneous**

## Environmentally Hazardous Paints, Printing Inks and Adhesives

Transmitted by The International Paint & Printing Ink Council (IPPIC)

### Introduction

1. The increase in the number of paint and printing inks coming into the scope of the transport of dangerous goods regulations because of classification as environmentally hazardous under GHS has created problems and concerns, not only for industry, but also for transport operators and regulators. IPPIC have reviewed these issues overall in order to develop proposals relating to Dangerous Goods List entries and packaging provisions.
2. The products include oil- or solvent-borne materials with flashpoints above 60 °C and the ever increasing ranges of water-borne adhesives, paints, inks, wood preservatives and the resins used in their manufacture, as well as some cleaning materials, all of which are now classified in Class 9. These water-borne and high flash-point products have historically been transported as unregulated products, as they presented little or no safety risk, when compared with those of PG III for flammability or corrosivity.
3. Paint and printing ink are extremely high volume commodities in the global marketplace. Current data suggests that some 50% of the paint and printing ink shipped is water-borne, a high percentage of which is now regulated in Class 9. In the European Union alone, this is estimated to exceed some 5 million tonnes per annum. Examples of the additives which now cause the products to be EHS include zinc and the biocides to achieve product stability in warmer climates.
4. Over the years it has been recognised that the use of generic entries for paint and printing inks, etc, has made it easier for transport and ship operators and emergency responders to understand the type of product being shipped and appropriate actions to take in case of spillage, for example. At present, there are 4 entries for “PAINT” and “PAINT RELATED MATERIAL” in the Dangerous Goods List in the Model Regulations. These are for materials meeting the criteria for Class 3 (UN 1263), for Class 8 (UN 3066) and the criteria for Class 3 and 8 (UN 3469 and UN 3470): see annex.
5. For similar products that meet the Class 9 criteria, the only option is for manufacturers to use UN 3077 or UN 3082 Environmentally Hazardous Substance, solid or liquid, N.O.S. followed by the technical names in brackets. The proper shipping name for these entries are quite lengthy and complex (including technical names), which are required to be marked on packages and included in the transport document. Many of the technical names are lengthy and incomprehensible to the general user and do not clearly identify the material as paint or printing ink. First responders will more clearly appreciate the task in front of them if they arrive at an incident and instantly recognise the material in question.

Some of our members have had loads delayed because port authorities have sought clarification on the goods, despite them being fully marked and documented in accordance with current regulations. A generic N.O.S. description is not warranted when there is a more accurate and descriptive proper shipping name available - this is a long-held principle of dangerous goods transport and why UN1263, UN1210 etc were originally established. It is IPPIC's belief that the inclusion of specific entries for Class 9 paints and printing inks would overcome these problems for the shipping industry and the emergency response community. This would make no difference to the current requirement for sea transport that the technical names be added to the description in accordance with 3.2.1.9 of the IMDG Code.

6. During the preparation of this paper, it has been suggested to us that there are water-borne versions of numerous types of materials on the Dangerous Goods List that could meet the new Class 9 criteria and this would lead to a proliferation of new UN numbers. Our initial review of the DGL indicates that there are only a handful of such materials. These include Adhesives (UN 1133); Extracts, Aromatic Liquids (UN 1169); Perfumery Products (UN 1266); Wood Preservatives, Liquid (UN 1306); and Resin Solutions (UN 1866). If the Sub-Committee are willing to embrace the logic of our case for paint and printing inks, then we believe it will be appropriate to include similar numbers, at least for adhesives and resin solutions.

7. A second problem for the industry relates to the packaging of these types of products. Plastic pails in sizes of 5, 10, 20, 25 and 30 litres are typically used by painting contractors and industrial customers and are transported in very high volumes. Previously, containers of such products now in Class 9 did not need to be regulated.

8. Special Packing Provision PP1 excepts packagings of paints, inks, adhesives and resin solutions of 5 litres or less from Chapter 6.1 performance tests. Plastic pails larger than 5 litres are therefore required to be UN specification packaging. This has proved to be technically problematic for manufacturers and shippers and the additional expense of UN specification packaging for very low hazard products far exceeds any safety benefits. IPPIC therefore proposes that the size limit in the packing provision for class 9 adhesives, printing ink and related materials, paint and related materials and resin solutions be increased from 5 litres to 30 litres.

## **Proposals**

9. IPPIC hope that the Sub-Committee will recognise the importance of the issues raised in this paper and will be minded to adopt both changes relating to Class 9 products in accordance with Proposal A. However, bearing in mind that the Sub-Committee may prefer to deal with each part separately, we have included alternative proposals B and C. IPPIC also recognise that the Sub-Committee may not be in a position to adopt some or all of the proposals immediately at this meeting. In that case, IPPIC would wish to submit a formal paper to the December 2012 meeting but would, nevertheless, appreciate immediate comments from experts on these proposals.

## Proposal A (both changes)

10. The following new entries be added to the Dangerous Goods List in the Model Regulations:

| -1   | -2  | -3 | -4 | -5  | -6         | -7a | -7b | -8                    | -9   | -10 | -11         |
|------|---|----|----|-----|------------|-----|-----|-----------------------|------|-----|-------------|
| 3XXX | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, (including paint thinning or reducing compound) | 9  |    | III | 223<br>331 | 5 L | E1  | P001<br>IBC03<br>LP01 | PPZZ | T4  | TP1<br>TP29 |
| 3YYY | PRINTING INK or PRINTING INK RELATED MATERIAL (including printing ink, thinning or reducing compound)   | 9  |    | III | 223<br>331 | 5 L | E1  | P001<br>IBC03<br>LP01 | PPZZ | T4  | TP1<br>TP29 |
| 3AAA | ADHESIVES   | 9  |    | III | 223<br>331 | 5 L | E1  | P001<br>IBC03<br>LP01 | PPZZ | T4  | TP1<br>TP29 |
| 3BBB | RESIN SOLUTION  | 9  |    | III | 223<br>331 | 5 L | E1  | P001<br>IBC03<br>LP01 | PPZZ | T4  | TP1<br>TP29 |

11. The Index to be amended to accommodate the new entries.

12. Add a new Special Packing Provision PPZZ to Packing Instruction P001 to read as follows:

PPZZ For UN numbers 3XXX (*Class 9 paint and paint related material*), 3YYY (*Class 9 printing ink and printing ink related material*), 3AAA (*Class 9 adhesives*) and 3BBB (*Class 9 resin solution*), metal or plastics packaging in quantities of 30 litres or less per packaging are not required to meet the performance tests in Chapter 6.1 when transported: (a) In palletised loads, a pallet box or unit load device e.g. individual packagings placed or stacked and secured by strapping, shrink- or stretch-wrapping or other suitable means to a pallet. For sea transport, the palletised loads, pallet boxes or unit load devices shall be firmly packed and secured in closed cargo transport units; or (b) As an inner packaging of a combination packaging with a maximum net mass of 40kg.

13. Consequentially amend Special Packing Provision PP1 to Packing Instruction P001 to read as follows:

PP1 For UN numbers 1133, 1210, 1263 and 1866 ~~and for adhesives and resin solutions which are assigned to UN3082~~, metal or plastics packaging for substances of packing groups II and III in quantities of 5 litres or less per packaging are not required to meet the performance tests in Chapter 6.1 when transported: (a) In palletised loads, a pallet box or unit load device e.g. individual packagings placed or stacked and secured by strapping, shrink- or stretch-wrapping or other suitable means to a pallet. For sea transport, the palletised loads, pallet boxes or unit load devices shall be firmly packed and secured in closed cargo transport units; or(b) As an inner packaging of a combination packaging with a maximum net mass of 40kg.

**Proposal B (additional entries only)**

14. The following new entries be added to the Dangerous Goods List in the Model Regulations:

| -1   | -2  | -3 | -4 | -5  | -6         | -7a | -7b | -8                    | -9  | -10 | -11         |
|------|---|----|----|-----|------------|-----|-----|-----------------------|-----|-----|-------------|
| 3XXX | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, (including paint thinning or reducing compound) | 9  |    | III | 223<br>331 | 5 L | E1  | P001<br>IBC03<br>LP01 | PP1 | T4  | TP1<br>TP29 |
| 3YYY | PRINTING INK or PRINTING INK RELATED MATERIAL (including printing ink, thinning or reducing compound)   | 9  |    | III | 223<br>331 | 5 L | E1  | P001<br>IBC03<br>LP01 | PP1 | T4  | TP1<br>TP29 |
| 3AAA | ADHESIVES   | 9  |    | III | 223<br>331 | 5 L | E1  | P001<br>IBC03<br>LP01 | PP1 | T4  | TP1<br>TP29 |
| 3BBB | RESIN SOLUTION  | 9  |    | III | 223<br>331 | 5 L | E1  | P001<br>IBC03<br>LP01 | PP1 | T4  | TP1<br>TP29 |

15. The Index to be amended to accommodate the new entries.

16. Amend Special Packing Provision PP1 to Packing Instruction P001 to read as follows:

PP1 For UN numbers 1133, 1210, 1263, 1866, 3XXX (Class 9 paint and paint related material), 3YYY (Class 9 printing ink and printing ink related material), 3AAA (Class 9 adhesives) and 3BBB (Class 9 resin solution), metal or plastics packaging for substances of packing groups II and III in quantities of 5 litres or less per packaging are not required to meet the performance tests in Chapter 6.1 when transported: (a) In palletised loads, a pallet box or unit load device e.g. individual packagings placed or stacked and secured by strapping, shrink- or stretch-wrapping or other suitable means to a pallet. For sea transport, the palletised loads, pallet boxes or unit load devices shall be firmly packed and secured in closed cargo transport units; or (b) As an inner packaging of a combination packaging with a maximum net mass of 40kg.

**Proposal C (Special Packaging Provision only)**

17. Add a new Special Provision PPZZ to Packing Instruction P001 to read as follows:

PPZZ For adhesives, printing inks, printing ink related materials, paints, paint related materials and resin solutions which are assigned to UN3082, metal or plastics packaging in quantities of 30 litres or less per packaging are not required to meet the performance tests in Chapter 6.1 when transported: (a) In palletised loads, a pallet box or unit load device e.g. individual packagings placed or stacked and secured by strapping, shrink- or stretch-wrapping or other suitable means to a pallet. For sea transport, the palletised loads, pallet boxes or unit load devices shall be firmly

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packed and secured in closed cargo transport units; or (b) As an inner packaging of a combination packaging with a maximum net mass of 40kg.

18. Consequentially amend Special Packing Provision PP1 to Packing Instruction P001 to read as follows:

PP1 For UN numbers 1133, 1210, 1263 and 1866 ~~and for adhesives and resin solutions which are assigned to UN3082~~, metal or plastics packaging for substances of packing groups II and III in quantities of 5 litres or less per packaging are not required to meet the performance tests in Chapter 6.1 when transported: (a) In palletised loads, a pallet box or unit load device e.g. individual packagings placed or stacked and secured by strapping, shrink- or stretch-wrapping or other suitable means to a pallet. For sea transport, the palletised loads, pallet boxes or unit load devices shall be firmly packed and secured in closed cargo transport units; or (b) As an inner packaging of a combination packaging with a maximum net mass of 40kg.

### **Justification for Proposals A, B and C**

19. New UN numbers for PAINT, PRINTING INK, ADHESIVES and RESIN SOLUTION in class 9 makes it clear to first responders that the material in question is a paint, printing ink, adhesive or resin solution. Consequently, it will not be necessary to decipher the generic n.o.s. proper shipping name in order to determine the immediate response in case of an incident. Safety and the work of emergency responders are enhanced while the addition of a UN number and designated Proper Shipping Name in Class 9 logically extends the existing classification framework for these types of material.

20. An increase in the packaging exception limit for adhesives, printing inks and related materials, paints and related materials and resin solutions which are currently assigned to UN3082 would simplify use and transport for industry and end users without prejudicing safety or the work of emergency responders.

## Annex

## Existing paint and printing ink UN entries

| -1   | -2   | -3 | -4 | -5  | -6         | -7a    | -7b | -8            | -9  | -10 | -11                |
|------|--|----|----|-----|------------|--------|-----|---------------|-----|-----|--------------------|
| 1263 | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)   | 3  |    | I   | 163        | 500 ml | E3  | P001          |     | T11 | TP1<br>TP8<br>TP27 |
| 1263 | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)   | 3  |    | II  | 163        | 5 l    | E2  | P001<br>IBC02 | PP1 | T4  | TP1<br>TP8<br>TP28 |
| 1263 | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)   | 3  |    | III | 163<br>223 | 5 l    | E1  | P001<br>IBC02 | PP1 | T4  | TP1<br>TP8<br>TP28 |
| 3066 | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)   | 8  |    | II  | 163        | 1 l    | E2  | P001<br>IBC02 |     | T7  | TP2<br>TP28        |
| 3066 | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)   | 8  |    | III | 163<br>223 | 5 l    | E1  | P001<br>IBC03 |     | T4  | TP1<br>TP29        |
| 3469 | PAINT, FLAMMABLE, CORROSIVE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE (including paint thinning or reducing compound) | 3  | 8  | I   | 163        | 0      | E0  | P001          |     | T11 | TP2<br>TP27        |
|      |  | 3  | 8  | II  | 163        | 1 L    | E2  | P001<br>IBC02 |     | T7  | TP2<br>TP8<br>TP28 |
|      |  | 3  | 8  | III | 163<br>223 | 5 L    | E1  | P001<br>IBC03 |     | T4  | TP1<br>TP29        |
| 3470 | PAINT, CORROSIVE, FLAMMABLE (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL CORROSIVE, FLAMMABLE (including paint thinning or reducing compound)  | 8  | 3  | II  | 163        | 1 L    | E2  | P001<br>IBC02 |     | T7  | TP2<br>TP8<br>TP28 |
| 1210 | PRINTING INK, flammable or PRINTING INK RELATED MATERIAL (including printing ink thinning or reducing compound), flammable   | 3  |    | I   | 163        | 500 ml | E3  | P001          |     | T11 | TP1<br>TP8         |

|      |  |   |  |     |            |     |    |                       |     |    |            |
|------|--|---|--|-----|------------|-----|----|-----------------------|-----|----|------------|
| 1210 | PRINTING INK, flammable or<br>PRINTING INK RELATED<br>MATERIAL (including printing ink<br>thinning or reducing compound),<br>flammable | 3 |  | II  | 163        | 5 L | E2 | P001<br>IBC02         | PP1 | T4 | TP1<br>TP8 |
| 1210 | PRINTING INK, flammable or<br>PRINTING INK RELATED<br>MATERIAL (including printing ink<br>thinning or reducing compound),<br>flammable | 3 |  | III | 163<br>223 | 5 L | E1 | P001<br>IBC03<br>LP01 | PP1 | T2 | TP1        |

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