



**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****Sixtieth session**

Geneva, 27 June-6 July 2022

Item 3 of the provisional agenda

Listing, classification and packing**Transport provisions for small quantities of environmentally
hazardous paints and printing inks (and related materials)****Submitted by the World Coatings Council (WCC)*****Background**

1. Paints, printing inks, adhesives, and related materials used to be mainly solvent-borne and based on flammable liquids. However, the industry has moved significantly to more water-borne products to satisfy environmental, health, and climate change concerns. Many of the solvent-borne products benefitted from an exemption (up to 450 L) from classification as flammable due to their viscosity (see 2.3.2.5). Solvent-borne products also benefitted from an exemption from the performance testing provisions (see special packing provision PP1 in packing instruction P001). The newer water-borne products were generally non-hazardous for transport with lower safety concerns due to their lack of flammability. Unfortunately, some of the preservatives, added at very small levels to protect the products from spoilage, are becoming classified. As a result, the newer water-borne products are now being regulated as dangerous goods for transport as UN 3077 and UN 3082. The industry now finds itself in a situation where the safer water-borne products are treated more severely than the more dangerous solvent-borne products used to be.

2. Special provision 375 currently exempts packages containing small amounts (i.e., packages or inner packagings containing ≤ 5 L / 5 kg) of UN 3082 and UN 3077 from all requirements of the Model Regulations other than certain general packing provisions of section 4.1.1. Alternatively, packages containing similar quantities of paints, printing inks, adhesives, and resin solutions assigned to UN 3082 are not required to meet the performance tests in Chapter 6.1 when transported in certain configurations such as pallets or combination packagings (see PP1). UN-approved packaging required to carry these products in quantities above 5 L is not yet available and/or appropriate for all product types. They are not well suited to the paint industry due to the type of closure used, which allows the product to be opened for tinting and re-closed for further transport.

3. To address the difficulties in obtaining suitable UN-approved packaging, the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of

* A/75/6 (Sect.20), para. 20.51

Dangerous Goods held 21 September to 1 October 2021 adopted an amendment for a transitional measure in 1.6.1.51 to RID and ADR for entry into force on 1 January 2023 (see ECE/TRANS/WP.15/AC.1/2021/37 (CEPE)). This temporary derogation allows adhesives, paint and paint related materials, printing inks and printing ink related materials and resin solutions assigned to UN 3082 containing certain preservatives to be transported by road or rail in packagings, which do not meet the requirements of 4.1.1.3, when carried in quantities of 30 L or less per packaging in certain configurations such as pallets or combination packagings. The derogation lasts from 1 January 2023 until 30 June 2025 (Multilateral Agreements M343 and RID 8/2021 provides this relief until the derogation comes into force). However, it is believed that the required packaging will still not be available in all areas of the world by 2025. In addition, there is a need to transport these materials by sea to ensure free trade.

4. These environmentally hazardous products include powder coatings, oil- or solvent-borne materials with a flash point above 60 °C, and water-borne mixtures. An example of the additives which now cause the products to be environmentally hazardous include, in particular, the preservatives used in water-borne formulations to prevent spoilage and waste. Other examples include additives such as zinc containing substances, epoxy resins, monomers, photo-initiators, amine synergists and antioxidants. Due to ongoing evaluations of such preservatives and other additives by authorities, as well as the re-classification as environmentally hazardous, the industry is experiencing a continued increase in the number of paint and printing inks being classified as UN 3082 based on applicable transport of dangerous goods regulations.

5. The World Coatings Council asks the Sub-Committee to consider this issue and discuss potential solutions identified in paragraph 12 below. The World Coatings Council is also open to other recommendations by the Sub-Committee on the best way to proceed in resolving this transport issue.

Discussion

6. Plastic pails/drums in sizes of 5, 10, 20, 25, and 30 L are typically used by do-it-yourself consumers, painting contractors, and industrial customers and are transported in very high volumes. These products have been traditionally marketed in larger plastic or tinsplate pails/drums because the user needs larger amounts for a particular task and does not want to dispose of multiple smaller empty packs. UN versions of such pails/drums, even where available (many plastic pails/drums are only certified for solids), are difficult for retailers to remove the lid for tinting and then re-close. Retailers must open the lid to add coloring agents to the paint base, and then re-close it without compromising the packaging. Pictorial examples of the tinting process are shown in the annex below.

7. In 2012, an intersessional working group developed a proposal for special provision 375 (see ST/SG/AC.10/C.3/2012/93) which was agreed to by the Sub-Committee at its forty-second session. At that time, the expert from the United States of America indicated that a number of participants in the correspondence group had expressed their intent to continue work in subsequent bienniums to further facilitate the transport of UN 3077 and UN 3082. The Dangerous Goods Advisory Council (DGAC) and the Council for the Safe Transport of Hazardous Articles (COSTHA) attempted to address this problem in their document ST/SG/AC.10/C.3/2018/47, which aimed to increase special provision 375 from 5 to 30 L or kg. The Sub-Committee did not think the time was right for such a move and questioned the possibility that it might not be suitable for sea transport due to a contradiction with MARPOL Protocol of 1978 relating to the International Convention for the Prevention of Pollution by Ships, 1973. Since that time, UN 3082 and UN 3077 goods have been transported safely without major incident. In addition, the WCC has reviewed MARPOL and cannot see any contradiction with extending this relief to packages transported by vessel.

8. In other regions, regulators have accepted that the safety risk presented by Class 9 environmentally hazardous materials transported in small packagings is non-existent or negligible. The WCC notes that the Australian Dangerous Goods regulations (Section 3.3.3) allow transport of up to 500 L of UN 3082 as non-dangerous goods by road and rail. The

WCC is not aware of any safety incidents due to this allowance (special provision AU01). In the United States of America, 49 CFR paragraph 171.4 states that if you are shipping a marine pollutant, you need only comply with the applicable regulations if shipping by vessel over water, or in a bulk packaging (i.e. maximum capacity > 450 L) by motor vehicle, rail car, or aircraft.

9. The paint and printing ink industry is unaware of any transport incidents involving small packages of UN 3082 that occurred since the introduction and application of special provision 375 in the 2015 Model Regulations. However, the quantity limits of 5 L greatly limit the application and utility of the special provision. Supply chain constraints typically require the use of single packages of up to 30 L for efficient distribution and use of products. Limiting the quantity to 5 L requires the transport and use of up to six times the number of packages compared to a 30 L limit. This increases the possibility of an incident and also results in the generation of a substantially greater volume of waste requiring specialized disposal.

10. As part of Responsible Care® and similar sustainability programs, the paint and printing ink industry uses good quality packaging and shipping conditions to ensure the products make it to their destination unharmed before they reach the end customer. The industry is already using more sustainable recycled packaging for water-borne coatings to reduce plastic waste and contribute to a circular economy. Industry's experience over many years of transporting metal and plastic packaging is that, if these products are involved in accidents, the spilled product is relatively easy to contain by its very nature.

11. Paint and printing ink are extremely high-volume commodities in the global marketplace. Current data shows an increase from 50 % in 2006 to 73 % in 2017 of decorative water-borne paint being shipped, a significant percentage of which is now regulated in Class 9. Globally, the volume of decorative paints shipped is roughly 27 million L per year.

Proposed options

12. The WCC proposes two potential solutions to this transport issue:

- Option A amends special provision 375 in Chapter 3.3. It is an exemption for small packagings of goods assigned to UN 3077 and UN 3082 (provided general packing provisions of section 4.1.1 are met).
- Option B amends packaging provision PP1 in packing instruction P001 in Chapter 4.1.4. It is a limited exemption from only the performance testing requirements of Chapter 6.1 (when palletized or in combination packaging) and is specific to the packaging of paints, inks, adhesives, and resin solutions in UN 3082.

13. The WCC is also open to alternative proposals that the Sub-Committee might suggest.

Option A

14. In Chapter 3.3, amend special provision 375 to read as follows (new text is underlined, deleted text in strikethrough):

“375 These substances when transported in single or combination packagings containing a net quantity per single or inner packaging of 5 L [~~30 L~~] or less for liquids or having a net mass per single or inner packaging of 5 kg [~~30 kg~~] or less for solids, are not subject to any other provisions of these Regulations provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.”

Option B

15. The use of a special packing provision. This could be based on the existing PP1 in P001, which exempts packaging of paints, inks, adhesives, and resin solutions of 5 L or less from Chapter 6.1 performance tests. Paints, inks, adhesives, and resin solutions that meet the Class 9 environmentally hazardous criteria present an even lower safety risk in transportation

than even the PG III flammable materials. Therefore, it is logical to extend the packaging exception of PP1 to these Class 9 materials. A new special packing provision could be developed, excepting packaging of environmentally hazardous paints, inks, adhesives, and resin solutions of 30 L or less from the Chapter 6.1 performance tests, for packing groups PG II and III materials. Goods would still be labelled to identify the hazard to the environment. The WCC suggests the following language:

In 4.1.4.1 packing instruction P001, amend special packing provision PP1 to read as follows (new text is underlined):

“**PP1** For UN Nos. 1133, 1210, 1263 and 1866 and for adhesives, printing inks, printing ink related materials, paints, paint related materials and resin solutions which are assigned to UN 3082, metal or plastics packagings for substances of packing groups II and III in quantities of 5 L [(30 L for UN 3082)] or less per packaging are not required to meet the performance tests in Chapter 6.1 when transported:

- (a) In palletized 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 40 kg.”

16. The WCC welcomes discussion with the Sub-Committee as to the best way to proceed.

Annex

Pictorial examples of various processes described throughout this document

(a) The machine used for the tinting process.



(b) After the tinting process has taken place, the drum is placed in a paint shaker machine (shown below) to mix the various colors into one uniform color.



(c) An example of one of the UN 3082 products that has been changed due to the preservatives in it (labeled with the Class 9 and dead fish/dead tree mark).



(d) Non-regulated waterborne paint product packaged in plastic drums palletized with shrink-wrap and ready to transport to distributors, warehouses, or retailers.

