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DOI: 10.35117/A_ENG_16_03_04

Red bags on the route - the transport of medical waste

Abstract: Discuss about the principles of classification of medical waste and the situations in which the waste are not subject to regulations of ADR. Pointed out ways to transport this waste: in packages and in loose. Attention was paid to the lack on the Polish market of appropriate packaging and it's high price. Transport in loose was discussed in detail paying attention to similarities and differences in the requirements in transport based on regulations BK2 i VC3. VC3 requires that national authorities determine conditions of transport - until now such rules do not exist. The illustrations show some examples of inappropriate transport. It was noted that the inspection services have a problem with understanding binding laws.

Keywords: Transport of medical waste; Transport of dangerous goods

Transport of dangerous waste, in it medical waste still don't find understanding among creators and spoilage owners. Often even transporters are not aware, that transported by them waste are also subject to different regulations than the law on waste. But Art. 24, paragraph 2 of the Act of 14 December 2012 about waste makes clear that: **transport of dangerous waste taking place with maintain provisions ruling at transport dangerous products.**

Let's analyze then, how the "rules binding in transport of dangerous products" treat medical waste. According to the ADR / RID / ADN infectious materials are classified in Class 6.2 are divided into two categories:

Category A, that includes infectious materials transported in this form, that contact with them may result being disabled, threat to life or fatal disease, showing up in healthy people or animals. Examples of materials that meet these criteria are given in the table in section 2.2.62.1.4.1; They are classified with UN No. 2814 or 2900, and

Category B, including infectious materials that do not meet the conditions of category A; They are classified with UN 3291 or UN 3373.

Also define **medical waste or clinical** as spoilage arise during examination or treatment of animals or humans or from biological research or scientific experimentation. Waste containing infectious materials of category A are still classified with UN 2814 or 2900, while containing waste materials are classified in category B for the position of UN 3291.

In the following part of discussion we will waste of UN No. 3291, because they making the majority of the materials class 6.2 and it turns out, that the transport of waste are serious problems.

To the position of UN 3291 should be classified as medical waste or clinical, about with known, that there is a low probably, that they contain infectious substances. At the same time the ADR refers to the Commission Decision 2000/532 / EC as amended (Polish legislation - the regulation of the Minister of the Environment of 9 December 2014. On waste - Dz. U. of 2014. Pos. 1923). Namely:

18 01 04 Waste from natal care, diagnosis, treatment and prevention medical - waste whose collection and disposal is not subject to special requirements considering for preventing infection (eg. Dressings, plaster casts, linen, disposable clothing, diapers), and

18 02 03 Waste from research, diagnosis, treatment and prevention of veterinary - waste, whose collection and disposal is not subject to special requirements in order to prevent infection, not subject to ADR.

Also disposed medical waste, which previously contained infectious substances are not subject to ADR unless they meet the criteria of other classes.

Unfortunately, watching how the cars are loaded, it can be stated, that during the already pre-segregation - in hospital wards, or during putting them in vehicle waste with different codes are blended together.



1. Bags of different colors in capacity of cargo chest of vehicle - we can suppose that spoilage contain codes 18 01 02*,18 01 03* i 18 01 04.

ADR also don't help, when it comes to proper classification of waste. At the same UN number are in fact three proper shipping names:

- CLINICAL SPOILAGE, UNSPECIFIED, I.N.O., or
- SPOILAGE (BIO) MEDICAL, I.N.O., or
- MEDICAL SPOILAGE SPECIFIED, I.N.O.

A horse with a range of whoever in a simple way to explain what is meant by the various terms!

Medical waste of UN No. 3291 may be carried in packages, in bulk or in tanks.

Transport in single pieces may take place in packing too, large packages or large containers to transport in loose (IBC) according to the packaging instructions, respectively P621, LP621 or IBC620. The packages should be certified. In the case of packaging made of plastic it doesn't be in force to limit the period of use for five years. Medical waste assigned to transport category 2, so the transportation of such waste in quantity of up to 333 kg may be excluded from ADR on the basis of 1.1.3.6. Such transport is used for reception medical waste eg. With minor surgeries or dental. An important limitation is the price of this type of packaging



2. A container for the needles – price approx 5 zł/ pcs.



3. Box with plastic inner bag – price approx. 20 zł / pcs.

Carriage in loose may take place according to the provisions BK2 in column (10) of Table A or VC3 accordance with the provisions specified in column (17) of Table A. BK2 recipe comes from the UN Model Regulations, while the provision of VC3 is only ADR / RID / ADN

Conditions of transport in loose require detailed comment, as always among the carriers, but even worse, among inspection services lack a proper understanding of these provisions. The problem lies in the fact that carriage in loose is permitted on two different bases, and for the exercise of transport are radically different.

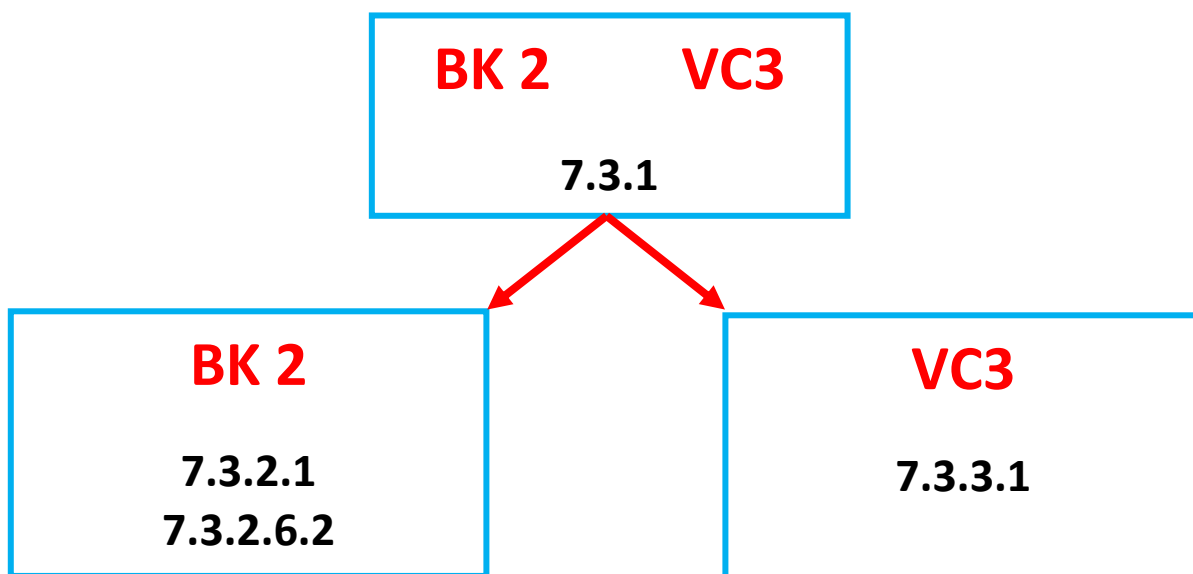
Let's analyze the rule 7.3.1.1 ADR: *Dangerous goods can be transported in loose in containers to transport in loose, containers or vehicles only in the following cases:*

(a) *if this way of carriage is expressly permitted under a special provision, identified by the code BK, or a reference to a specific provision in Column (10) of Table A of Chapter 3.2 and are satisfied the relevant requirements of this chapter and chapter 7.3.2;*

or

(b) *if this mode of carriage is expressly permitted under a special provision, identified by the code VC or references to a specific point in the column (17) of Table A in section 3.2 and met the requirements of this provision and any additional rules marked with the code "AP" as defined in section 7.3.3 and the requirements of this chapter.*

The key to this recipe is the word "or". This means that de facto declaration of the carrier depends on which provision is made in loose transport. By "this chapter" should be understood as the provisions contained in section 7.3.1.



Prescriptions of Chapter 7.3.1, common to transport both on the basis of the provision BK2 and VC3 require, among other things:

- containers to transport in loose, containers and vehicle body should be dustproof and closed in such a way that under normal conditions of carriage including the effect of vibration, temperature changes, humidity or pressure, their content does not spread out.
- during transport, on the outside surfaces of container to transport in loose, container and vehicle body there should be no dangerous residue.
- before filling, the container to transport in loose, container and vehicle should be checked visually to ensure that they are fit for use, it's interior walls, ceiling and floor

are free from protrusions or damage; The term "fit for use" means that the container to transport in loose, container and the vehicle does not have major defects in its structural components; for defects in material considered to be among permeable splurging seals and insulations.



4. A few centimeters crevice between the side walls and loading the van and no back door does not provide dustproof.



5. Leaks of the bags be thrown out of the load compartment.



6. Damaged seals and carelessly closed doors.

Each of the cases is presented in accordance with Regulation of the Minister of Transport, Construction and Maritime Economy of 4 June 2012. on a form checklist form and control protocol (Dz. U. of 2012. pos. 655) infringement Category I and requires immediate measures - eg. immobilisation of the vehicle, call the emergency services, vehicle handling, etc. It also involves the imposition penalties on the carrier, the shipper and transporter in the amount of from one to three thousand.

If we decide to transport on the basis of the provision BK2 the **provisions of Chapter 7.3.2.** will be in force additionally

BK2 means that the carriage in loose from containers to transport in loose or in closed vehicles is permitted. This should be a container compatible with the CSC or the container or cargo chest approved by the competent authority. In Poland, it is Director of Transportation Technical Supervision. **As of today I have not seen ANY of the container or vehicle having approval for the transport of medical waste!**

In contrast, for the curious should be considered the requirements of Section 7.3.2.6.2. Although the provision applies to transport in bulk it requires that waste is packed in certified packaging:

- plastic bags with a maximum weight of 30 kg, tested for solids materials group II further tested for breaking strength.
- waste of UN No. 3291 containing sharp objects shall only be transported in packs of rigid plastics UN certified, meeting the requirements of packing instruction P621, IBC620 or LP621;
- allowed the use of packaging rigid plastic defined in packing instructions P621, IBC620 and LP621; Packaging should be properly secured to prevent them from being damaged during normal carriage conditions.
- waste transported in containers from rigid plastic and plastic bags, which are in the same closed container for transport in loose, they should be separated from each other in such a way as to prevent damage to the packaging under normal conditions of transport, eg. By means of rigid bulkheads barriers or nets;



7. These types of bags are unavailable in Poland. Their price in the sales order is approx. 2 € / unit.



8. Klinix Box - pack serving transport, among others, body parts. The edge of the drum has a sharp edge, while the cover is a silicone gasket. After latching lid packaging is tight, and the design of locks prevents the re-opening of the packaging without damaging it.

- design of closed containers to transport in loose, including holes, should ensure their tightness; the inner surface of the container should not be porous or cracked and should not cause damage to the loaded packages, accidental release of goods or hinder disinfection.
- tightness of container to transport in loose should be checked after each transport; if in the interior of container to transport in loose there was a release of waste UN 3291, the container should not be re-used, unless it has been thoroughly cleaned and, if necessary, disinfected or decontaminated using appropriate means.

If you choose to transport medical waste in accordance with the provisions of VC3, it will force us appropriate sentence **provision in Section 7.3.3.1: VC3 means that allowed transport in loose in specially equipped vehicles or containers in accordance with conditions specified by the competent authority of the country of origin. If the country of origin is not a contracting party to ADR**, these conditions shall be recognized by the competent authority of the first country on the route the consignment, which is a Contracting Party to ADR. This provision reproduces a provision VV13, which was in force in ADR to the end of 2014, but then did not apply to medical waste.

Although the ADR 2015 in force for almost a year, is to this day the competent authority - the Minister of Health - does not set the conditions for the transport of medical waste. To this day we do not know what is to rely on "special equipment" vehicles or containers. Note that the conditions of transport is not only the design of the vehicle, but also a way of packaging the rules of procedure for the release of hazardous material.

Determining the conditions of carriage as analogous to the provisions of BK2 may cause on the one hand increase the safety of transport, but on the other - a drastic increase in costs. Also note that some types of packages - eg. Certified bags are not available on the Polish market.

Provisions relating to the transport of medical waste are written in a complicated way. It turns out that the inspection services have problems with their correct interpretation. In his practice advisor DGSA in the last few years I had to deal with situations in which it was requested to present the approval BK2, despite the declaration of transport on the basis of a provision VV11 (now replaced by the VC3), twice launching any proceedings in the absence of an adequate number of fire extinguishers (at least 12 kg of extinguishing agent) and even concluded that medical waste UN 3291 are not accepted for transport in loose!