

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

25 November 2014

Forty-sixth session

Geneva, 1- 9 December 2014

Item 3 of the provisional agenda

**Global harmonization of transport of dangerous goods regulations
with the Model Regulations**

Bulk carriage of coal

Note by the secretariat

Introduction

1. The Dangerous Goods list contains the entry UN 1361, CARBON, animal or vegetable origin. The French name is “CHARBON, d’origine animale ou végétale” which makes it clear in French that coal should be carried under this entry of division 4.2. A few incidents involving smouldering coal in the cargo spaces of inland navigation vessels in Europe, led to a number of discussions relating to the carriage of coal in bulk not only on board inland navigation vessels but also in vehicles and wagons.

2. During the discussions it was noted that the IMO IMSBC Code contains a specific schedule for coal and that this schedule contains detailed provisions for the transport of coal in bulk, but that this schedule does not assign coal to division 4.2, UN 1361. This led to the question whether UN 1361 was intended to cover coal. If yes, should not there be provisions in the Model Regulations for its carriage in bulk? Or is carriage in bulk allowed only when the criteria for division 4.2 are not met?

3. The Sub-Committee may wish to note the decisions taken regarding ADR, RID and ADN. For ADN, it was agreed to allow the carriage in bulk of coal meeting the criteria of division 4.2 packing group III, in inland navigation vessels through the following special provision 803:

“803 Hard coal, coke and anthracite, when carried in bulk, are not subject to the provisions of ADN if:

- (a) The temperature of the cargo has been determined using an appropriate procedure and is not higher than 60°C before, during or immediately after loading of the hold;
- (b) Depending on the temperature of the cargo before, during and immediately after loading of the hold, the expected duration of carriage without temperature monitoring does not exceed the maximum journey times shown in the table below:

<i>Maximum temperature on loading (°C)</i>	<i>Maximum duration of journey (days)</i>
60	10
50	18
40	32
30	57

- (c) Where the effective duration of carriage exceeds the maximum duration shown in subparagraph (b), temperature monitoring is carried out from the first day over the maximum;
- (d) The master is given, at the time of loading and in a traceable form, instructions on how to proceed if there is a significant heating of the cargo.”.

For RID, the carriage in bulk of coal meeting the criteria for division 4.2, packing group III in sheeted or closed metal wagons and freight containers was already allowed, but it was decided to allow also carriage in open wagons or containers and to grant a derogation from the requirements of RID when certain conditions are met, through SP 665:

“**665** When carried in bulk, hard coal, coke and anthracite, meeting the classification criteria of Class 4.2, packing group III may also be carried in open wagons or containers, provided that

- (a) The coal is conveyed from fresh extraction directly into the wagon or container (without measuring the temperature) or
- (b) The temperature of the cargo is not higher than 60 °C during or immediately after loading into the wagon or container. Using suitable measuring methods, the filler shall ensure and document that the maximum permissible temperature of the cargo is not exceeded during or immediately after loading the wagons or containers.

The consignor shall ensure that the following statement is included in the document accompanying the consignment (such as a bill of lading, cargo manifest or CMR/CIM consignment note):

"CARRIAGE IN ACCORDANCE WITH SPECIAL PROVISION 665 OF RID".

The other provisions of RID do not apply.”.

Certain delegations considered that self-heating coal should not be classified under UN 1361 (see e.g. attached informal document INF.4 from Poland), RID SP 665 was assigned to both UN 1361 and UN 3088 (packing group III).

ADR was not amended, which means that coal meeting the criteria of division 4.2, packing group III, continue to be authorized for carriage in bulk in closed or sheeted vehicles with a metal body and in closed metal containers or in sheeted large metal containers, but not in open vehicles or containers.

Nevertheless, at its 97th session (3-7 November 2014) the UNECE Working Party on the Transport of Dangerous Goods (WP.15) noted that the ADN Safety Committee and the RID Committee of Experts’ standing working group had adopted provisions to exempt, under certain conditions, the carriage of hard coal, anthracite and coke through the use of a new special provision.

EURACOAL would present a document at the next session to include equivalent provisions for road transport in ADR.

The representative of Poland pointed out that a multilateral agreement on the issue was under development and would be circulated for signature among Contracting Parties to ADR soon.

It was suggested that the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods could decide on the doubts raised in respect of classifying coal and the possible need to adopt additional provisions for the intermodal carriage of coal.

The Working Party requested the secretariat to make the documents presented at this session available to the Sub-Committee, and these documents are attached hereafter.



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Inland Transport Committee

Working Party on the Transport of Dangerous Goods

Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods

Geneva, 15 - 19 September 2014

Item 9 of the provisional agenda

Any other business

Carriage of coal in bulk

Transmitted by the Government of Poland^{1,2}

Summary

- Executive summary:** This paper aims at finding out if any further steps concerning carriage of coal (hard coal, anthracite and coke) in bulk, meeting the classification criteria of Class 4.2, packing group III, are necessary to ensure their seamless carriage, also in intermodal transport.
- Action to be taken:** The Joint Meeting is invited to address the questions raised in the document.
- Related documents:** Informal document INF.6 (UIC) of the November 2011 session of the RID Committee of Experts' standing working group; ECE/TRANS/WP.15/AC.2/46 of the January 2013 session of the ADN Safety Committee; Informal document INF.8 of the May 2014 session of the RID Committee of Experts' standing working group.

¹ In accordance with the programme of work of the Inland Transport Committee for 2014–2015 (ECE/TRANS/240, para. 100, ECE/TRANS/2014/23, cluster 9, para.9.2).

² Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2014/47.

Introduction

1. At the 1st session of the RID Committee of Experts' standing working group (Riga, 12 – 15 November 2012) UIC submitted informal document INF.6, which contained information concerning incidents on open barges carrying coal in bulk. The standing working group was informed that it cannot be ruled out that (imported) coal may meet the classification criteria of Class 4.2. UIC proposed that special conditions of carriage should be implemented in RID and that the carriage of coal in bulk by rail as dangerous goods should be safeguarded by a multilateral special agreement between the states affected.

2. The above document was followed by relevant proposals submitted by EURACOAL. They contained a draft special provision specifying conditions under which carriage of coal may be exempted from RID provisions. The proposals were discussed at the 2nd and 3rd sessions of the standing working group respectively and the conditions on which the exemption may be applied were agreed.

3. Finally at the 53rd session the RID Committee of Experts (Berne, 22 May 2014) adopted special provision 665 for a date of entry into force of 1 January 2015 which reads as follows:

“665 When carried in bulk, hard coal, coke and anthracite, meeting the classification criteria of Class 4.2, packing group III may also be carried in open wagons or containers, provided that

- (a) The coal is conveyed from fresh extraction directly into the wagon or container (without measuring the temperature) or
- (b) The temperature of the cargo is not higher than 60 °C during or immediately after loading into the wagon or container. Using suitable measuring methods, the filler shall ensure and document that the maximum permissible temperature of the cargo is not exceeded during or immediately after loading the wagons or containers.

The consignor shall ensure that the following statement is included in the document accompanying the consignment (such as a bill of lading, cargo manifest or CMR/CIM consignment note):

"CARRIAGE IN ACCORDANCE WITH SPECIAL PROVISION 665 OF RID".

The other provisions of RID do not apply."

This special provision was added for UN numbers 1361 and 3088.

4. Parallel solutions have been approved for inland waterway transport. At the ADN Safety Committee (Geneva, 21-25 January 2013) the text of the special provision 803 authorising the bulk carriage of hard coal, coke and anthracite, meeting the classification criteria of Class 4.2, packing group III and setting the criteria for exemption from ADN provisions was adopted (Report from the 22nd session of the ADN Safety Committee, ECE/TRANS/WP.15/AC.2/46).

5. At the meeting of the standing working group of the RID Committee of Experts (20-21 May 2014), in informal document INF.8 (reproduced as INF.4 for this session of the Joint Meeting) Poland has expressed a number of doubts concerning the classification of coal as dangerous goods, and suggested that the question of its classification be referred to the UN Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals.

6. At the RID Committee of Experts' standing working group it was proposed that the discussions at the ADN Safety Committee and the RID Committee of Experts' standing working group should first be made available to the Joint Meeting and that the Joint Meeting might then decide to submit the problem to the UN Sub-Committee of Experts on the Transport of Dangerous Goods.

Questions to be addressed

Considering the above Poland would like to ask the Joint Meeting for its opinion on the following issues:

7. Special provision concerning carriage of hard coal, coke and anthracite have already been approved for the RID for 2015 (special provision 665). Similar special provision was adopted by the ADN Safety Committee (special provision 803). However as far as road transport of dangerous goods is concerned no special provisions for carriage of the products concerned have been considered so far. In view of the above, is there a need for special provision and multilateral agreement for road transport?

8. Special provision 665 is adopted for states-parties to RID. However there are a number of states from which hard coal, coke or anthracite are carried to or across the RID states. The question that arises is how to deal with carriage which is governed by different legal regimes?

9. Similar problem as described above may be faced in multimodal carriage of coal. Therefore Poland would like to invite the Joint Meeting to express its opinion on whether the case should be referred to the Sub-Committee of Experts on the Transport of Dangerous Goods considering harmonisation of regulations that apply to land and maritime transport of dangerous goods?

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

1 July 2014

Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods

Geneva, 15-19 September 2014

Item 9 of the provisional agenda

Any other business

Carriage of coal in bulk – Comments on document OTIF/RID/CE/GTP/2014/5 transmitted by EURACOAL

Transmitted by the Government of Poland

Introduction

1. At the first meeting of the RID Committee of Experts' standing working group UIC submitted informal document INF.6, which contained information concerning incidents on open barges carrying coal in bulk. In the informal document the standing working group was informed that a test series of coal samples yielded the result that using the N.4 test for (imported) coal, it cannot be ruled out that such coal has the properties of dangerous goods, thus qualifying it to be assigned to Class 4.2, packing group III. UIC proposed that special conditions of carriage should be implemented in RID and that of the carriage of coal in bulk by rail as dangerous goods should be safeguarded by a multilateral special agreement between the states affected.

2. The above document was followed by a proposal presented by EURACOAL at the second session of the standing working group. It included a draft special provision 665, according to which coal, coke and anthracite, which, using the procedure referred to in RID 2.2.42.1.5, can be assigned to Class 4.2, packing group III and to UN No. 1361 CARBON, are not subject to the provisions of RID if certain conditions described in the special provision concerned are met.

3. At the standing working group a number of comments have been submitted concerning the proposal and the conditions to be met in order to exempt the carriage of coal from the requirements of RID. Therefore, EURACOAL submitted its revised proposal in document OTIF/RID/CE/GTP/2014/5.

4. Poland still has a number of doubts concerning the proposed regulations and would like to share them with the standing working group.

Explanation

5. The draft special provision 665 proposed in the document referred to above refers to hard coal, coke and anthracite to be assigned to Class 4.2, packing group III and to UN No. 1361 CARBON. Poland's doubts concern the grounds for classifying hard coal, anthracite and coke under UN 1361 (even if the results of the N.4 test are positive).

6. UN 1361 is described as Carbon, animal or vegetable origin. Historically, in the RID from 1967 (still valid in 1984), when there were no UN numbers assigned to dangerous

goods, marginal 431 point 8 included material referred to as charcoal, freshly burned (with an additional description concerning its size and burning time). Since UN numbers have been assigned, this position was applied to the carriage of charcoal. The above indicates that UN 1361 was created to set up the conditions for the carriage of charcoal and dust from burnt plants and animals rather than for solid mineral material, in this case hard coal (or anthracite).

As far as the description "animal or vegetable origin" under UN 1361 is concerned, even if this phrase is to be applied to the process that took place millions of years ago, coke still falls outside this description, as it is not of natural origin, but a product of a technological process of destructive distillation of low-ash, low-sulphur bituminous coal.

7. Poland's doubts concerning the adequacy of the classification of hard coal, anthracite and coke under UN 1361 also derive from the unofficial part of RID that includes the NHM codes (listed in Harmonised Commodity Code). In Table B, next to UN 1361, there is only NHM 2803 (Carbon "carbon blacks and other forms of carbon, not otherwise specified). In the Harmonised Commodity Code, this NHM number is listed in section "INORGANIC CHEMICALS ..."1; and this section does not include hard coal (under NHM 2701), lignite (under NHM 2702) or coke (under NHM 2704). These materials are listed in section "MINERAL FUELS ..."2.

8. It is also worth noting that the criteria of tests described under 33.3.1.3.3.1 of the UN Manual of Tests and Criteria used for classifying materials in Class 4.2 as self-heating substances are based on the self-ignition temperature of charcoal, which is 50 °C for a sample cube of 27 m3.

9. It should be mentioned here that the question of the classification of hard coal, anthracite and coke under UN 1361 has consequences not only for rail transport, but also for other modes, including road, inland waterway and maritime transport. Therefore, in the opinion of Poland, the subject should not be dealt with solely at the level of the RID Committee of Experts.

10. Poland would also like to draw attention to the existing data concerning incidents with hard coal, anthracite or coal. In informal document INF.6, UIC points out that self-ignition in rail freight transport is extremely rare. According to data from Germany since 1997, only five wagons on the same train could be documented as affected by a smouldering fire due to the self-ignition of coal during transport. Data gathered from Polish sources also make an argument for the currently used method of transporting coal in open wagons, and not in sheeted or movable wagons where the risk of deflagration has to be taken into account. At the national rail infrastructure, no incidents of coal self-ignition have been documented in the register maintained since 2005. Also, consignors of coal have not been informed of any incidents with coal self-ignition during carriage by rail.

11. Poland believes that the available information concerning incidents in the transport of coal, anthracite and coke, and consequently safety reasons, do not justify the additional measures indicated in the proposal submitted by EURACOAL with respect to transport of the three substances mentioned in draft special provision 665. The proposed solution may create an unnecessary burden for participants in the carriage of hard coal, anthracite and coke, which may adversely affect the competitiveness of rail transport. Therefore, Poland is not in favour of taking hasty decisions on the subject concerned, but would rather see a

¹ Full title of the section is: "INORGANIC CHEMICALS; ORGANIC OR INORGANIC COMPOUNDS OF PRECIOUS METALS, OF RARE-EARTH METALS, OF RADIOACTIVE ELEMENTS OR OF ISOTOPES".

² Full title of the section is: "MINERAL FUELS, MINERAL OILS AND PRODUCTS OF THEIR DISTILLATION; BITUMINOUS SUBSTANCES; MINERAL WAXES".

solution that would carefully address all the aspects presented above and be well justified by safety reasons.

Proposal

12. Taking into account the arguments presented above concerning the classification of hard coal, anthracite and coke under UN 1361 and the possible consequences of such classification for other modes of transport and safety aspects in rail transport, Poland would like to ask the standing working group to refer the question of classification to the UN Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals. Poland proposes to ask the Sub-Committee for an interpretation of UN No. 1361 and for an opinion on whether this entry also applies to hard coal, anthracite and coke. Afterwards, further work on the subject could be based on the opinion of the Sub-Committee, so that the suitability of solutions with respect to the transport of hard coal, anthracite and coke does not raise any doubts or entail unexpected consequences for other modes of transport. The final solution or regulation should be tailored meticulously so that it does not make rail transport less competitive than other modes of transport. It should include only those substances (or their forms) which, according to the UN Regulations, should unquestionably be classified as self-heating substances and the requirements adopted should address real risks inherent in the carriage of such goods.

OTIF



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Joint Meeting of the RID Committee of Experts and the
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Item 9 of the agenda: Any other business

Carriage of coal in bulk

Transmitted by the European Confederation of Fuel Distributors (ECFD)

Related documents: ECE/TRANS/WP.15/AC.1/2014/47 (OTIF/RID/RC/2014/47)

1. Paragraph 7 of the proposal submitted by Poland (ECE/TRANS/WP.15/AC.1/2014/47) states that the special provision for the carriage of coal, coke and anthracite for RID 2015 has already been adopted.
2. At the same time, the question has been raised as to whether the special provision for the transport of coal by inland waterway and by rail should be extended to road transport.
3. From ECFD's point of view, only a small amount of coal, anthracite and coke is carried by road in distribution operations to supply households, retailers and commercial customers.
4. In addition, no dangerous goods incidents or accidents are known of which would make it necessary to regulate road distribution transport.
5. Therefore, ECFD does not believe there is any need to introduce a special provision concerning the carriage of coal in bulk by road.

For reasons of cost, only a limited number of copies of this document have been made. Delegates are asked to bring their own copies of documents to meetings. OTIF only has a small number of copies available.

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

05 September 2014

Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods

Geneva, 15-19 September 2014
Item 9 of the provisional agenda
Any other business

Outcome of discussions on the transport of coal in bulk by the ADN Safety Committee

Note by the secretariat

Introduction

1. During the twenty-fifth session of the Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN Safety Committee), the topic of transport of coal in bulk was discussed and amendments to the relevant provisions in the regulations were adopted.
2. In order to inform the Joint Meeting of the outcome of the discussions, corresponding paragraphs from the report, including adopted texts are reproduced below. Original paragraph numbers are kept for easy reference.

Report of the ADN Safety Committee (ECE/TRANS/WP.15/AC.2/52)

Transport of coal in bulk, special provision 803

26. The Chairman noted that two proposals concerned special provision 803, but that as they dealt with different topics they would be discussed separately.

Document: ECE/TRANS/WP.15/AC.2/2014/50 (Germany)

27. The Committee adopted the proposed amendment to special provision 803 with some changes (see annex III) on the understanding that it would be necessary to clarify what was meant by appropriate measuring procedures. The Netherlands would draft an explanatory paper in collaboration with EURACOAL on what is meant by appropriate measuring procedures. The Chairperson noted that, pending its entry into force in 2017, the amendment could be implemented through multilateral agreements. A member of the Secretariat recalled that a multilateral agreement could contain only less stringent provisions and would not prevent the application of special provision 803 as set out on 1 January 2015.

Informal document: INF.21 (France)

28. The representative of France found it regrettable that the informal document and the preceding document had not been discussed at the same time, as his proposal constituted a different option which was also designed to increase safety during bulk carriage of coal that

was liable to heat up or even ignite on its own. It was therefore regrettable that the detailed discussion of document ECE/TRANS/WP.15/AC.2/2014/50 had been held without taking into consideration the amendment to the proposal of Germany that he had put forward. Given the considerable time that it took to transport coal in bulk by inland waterways and the quantities transported, France considered that the conditions required for the carriage of coal in bulk by sea, as set out in the IMO IMSBC Code, were also pertinent to carriage by inland waterways.

29. The representatives of EBU, EURACOAL and CIPA expressed grave concerns over that proposal, which would amount to requiring carriage to be in vessels equipped with hatch covers, with the hatches closed when the vessels were under way. They noted that 80% of the coal carried in bulk was transported in the open air on vessels without hatch covers and that the conditions proposed by France would not only have serious economic consequences if vessels had to be fitted with hatch covers but would also greatly affect operations because of hatch manoeuvres. The delegate of EURACOAL noted that in maritime transport the need to carry out atmospheric controls in airtight cargo holds containing coal was based on health and safety concerns.

30. It was noted that the RID/ADR/ADN Joint Meeting would also soon turn its attention to the issue of carriage of coal in bulk in wagons (ECE/TRANS/WP.15/AC.1/2014/47 (Poland)); the question therefore arose as to whether there was a need to consider a multimodal approach which took into account not only conditions that applied to maritime carriage but also to other modes of land transport (by road and rail) and, if necessary, the view of the United Nations Sub-Committee of Experts if it were requested to take up the issue.

31. Following a lengthy discussion, the representative of France requested that his proposal be put to a vote. The proposal was put to the vote and rejected. The Chairperson noted that it would be possible to go back over the issue, for example by following the conclusions of the discussion at the level of the RID/ADR/ADN Joint Meeting.

Related draft amendments included in ECE/TRANS/WP.15/AC.2/52, annex III for entry into force on 1 January 2017

Chapter 1.4

1.4.3.3 (v) Amend to read as follows:

"(v) When special provision 803 applies, shall guarantee and document, using an appropriate procedure, that the maximum permissible temperature of the cargo is not exceeded and shall provide instructions to the master in a traceable form."

(Reference document: ECE/TRANS/WP.15/AC.2/2014/50)

Chapter 3.3

3.3.1, Special provision 803 Amend to read as follows:

"803 Hard coal, coke and anthracite, when carried in bulk, are not subject to the provisions of ADN if:

- (a) The temperature of the cargo has been determined using an appropriate procedure and is not higher than 60°C before, during or immediately after loading of the hold;
- (b) Depending on the temperature of the cargo before, during and immediately after loading of the hold, the expected duration of carriage without temperature monitoring does not exceed the maximum journey times shown in the table below:

<i>Maximum temperature on loading (°C)</i>	<i>Maximum duration of journey (days)</i>
60	10
50	18
40	32
30	57

- (c) Where the effective duration of carriage exceeds the maximum duration shown in subparagraph (b), temperature monitoring is carried out from the first day over the maximum;
- (d) The master is given, at the time of loading and in a traceable form, instructions on how to proceed if there is a significant heating of the cargo.”.

(Reference document: ECE/TRANS/WP.15/AC.2/2014/50)
