



**OTIF/RID/CE/GTP/2017/11**

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**RID:** 8<sup>th</sup> Session of the RID Committee of Experts' standing working group  
(Utrecht, 20 to 24 November 2017)

**Subject:** Incident in Offenburg on 12 October 2016

### Information from Germany

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#### Introduction

1. At the end of 2016, the competent authority of Germany (the Federal Railway Authority) was notified of the incident described below in a report in accordance with RID 1.8.5. As a result of the national assessment of this report, Germany would like to inform the RID Committee of Experts' standing working group of this incident.

#### Incident in Offenburg on 12 October 2016 and description of the irregularities

2. A tank-container carrying 27,580 kg of liquid waste was to be carried in combined transport (road/rail) from a consignor in Italy to a disposal facility in Northern France.

Information on the tank-container

*Tank code: L4BH; initial inspection: 09.1989; last inspection: 11.2014 P, Operator: Company based in Italy.*

3. While travelling by rail from Basel to Aachen, the Federal Railway Authority inspected the train at Offenburg station on 12 October 2016. In the course of this inspection, it was noted that the bottom valve of this tank-container was leaking. As the marking indicated that the goods being carried were dangerous goods, the local fire brigade was alerted immediately. After taking a sample, the fire brigade initially thought it was condensed water. However, when an expert was checking conformity with RID, it was established that it was dangerous goods that were dripping from the bottom valve.

*Note: Apparently, the fire brigade took the condensed water sample from the run-off tube of the dome case drainage. This tube drains freely (with no stop-valve) and is used to drain rain water from the tank-container's dome case.*

4. As the consignor was unable to provide any up to date chemical analysis or classification, suitable analysis and classification had to be carried out before the journey could continue. According to the information in the transport document and the marking on the tank-container, the substance was UN 2929 TOXIC ORGANIC LIQUID, FLAMMABLE, N.O.S. The dangerous goods were pumped into a replacement container. The bottom valve on the tank-container was sealed by the Transport/Accident Information and Assistance System (TUIS) company fire service of InfraServ Höchst and was subsequently sent to a specialist workshop for cleaning.
5. Further checks established that
  - there was another leak on the second dome cover on the top of the tank-container;
  - the tank-container's thermometer was defective: despite the fact that the temperature of the load was 15°C, the thermometer indicated a temperature of 95°C.
6. When examining the documents accompanying the tank-container, it was established that the flashpoint of < 21°C indicated on the consignor's certificate of analysis (dated 10 June 2015) was not consistent with UN number 2929, packing group II, which was shown on the tank-container. Obviously the transport container was either provided with a false certificate of analysis or the dangerous goods being carried had been wrongly classified. In addition, it could not be seen from the accompanying documents what the main catalyst(s) of the hazards was/were or what the chemical composition of the substance was.

The result of the subsequent chemical analysis was that the substance was UN 1993 FLAMMABLE LIQUID, N.O.S. (ethyl acetate, 1-butanol), 3, PG II (D/E) with SP 640D (vapour pressure at 50°C no more than 110 kPa).

7. The analysis showed clearly that the goods being carried did not correspond to the original marking. In addition, the certificate of analysis found in the tank-container's document holder definitely did not relate to the goods being carried. The composition of the product shown on the certificate differed considerably from the actual values.
8. The Federal Railway Office ordered an exceptional check of the tank-container in accordance with RID 6.8.2.4.4. In the course of a visual inspection of the bottom valve, it was noted that there was a large foreign body in the bottom outlet of the tank-container. The foreign body turned out to be a piece of rubber about 6 cm long and 3 cm wide, but it was not from the tank-container itself (see picture 1).
9. When the dome cover seals were checked, it was noted that the sealing on all four dome covers was damaged (see picture 2). In addition, when the middle dome case was checked, it emerged that the identification plates had become separated from the bursting discs on the safety valves. The separated identification plates had been welded onto the connecting flange of the safety valves (see picture 3).
10. Following the visual inspection, a pressure test was carried out. For this test, compressed air (1 bar) was pumped into the tank-container. In order to reveal any leaks, all the fittings and openings on the tank-container were sprayed with soapy water. The appearance of bubbles or foam on the wetted fittings and openings enables the detection of leaks.

The following defects were found during the pressure test:

- First closing device (bottom valve):  
No effect; despite the valve being closed, air was able to flow out freely;
- Second closing device (discharge valve):  
Not leakproof;
- Third closing device (blank flange):  
Flat gasket damaged (nicked);
- The folding valve on the riser tube was not leakproof at all; the airflow was so strong that no bubbles could form;
- The top operating device of the bottom valve was leaking;
- The gas pendulum connection was leaking, both at the join between the flange and the ball valve and from the ball valve itself;
- All four dome covers on the tank-container were leaking; this explains the leakage of product in the area of the dome cover;
- Flange connections on both safety valves leaking.

11. Following the pressure test, both safety valves on the tank-container were dismantled. Impurities were found between the bursting disks and the safety valves, which indicate that the area around the flanges is leaking (see picture 3). Apart from the separated identification plates, which meant that the bursting disks could not be identified, the bursting disks that were installed were intact. The functioning of both safety valves was checked using a test rig. The safety valve on the left side in the direction of travel, whose identification plate indicated a start-to-discharge pressure of 3.71 bar, opened at only 2.0 bar. The safety valve on the right side in the direction of travel, whose identification plate indicated a start-to-discharge pressure of 3.31 bar, also opened at only 2.0 bar. Thus neither of the two safety valves showed the correct functioning.
12. The tank-container's gas displacement nozzle was around 5.5 cm above the clearance height of the tank-container and the dome case. To be able to close the dome case cover, a hole had evidently been cut in the cover (see picture 4). As there was a risk that the protruding connection might cause damage to other tank-containers if they were stacked (e.g. in transshipment terminals), it was dismantled.

### **Follow-up concerning the violations**

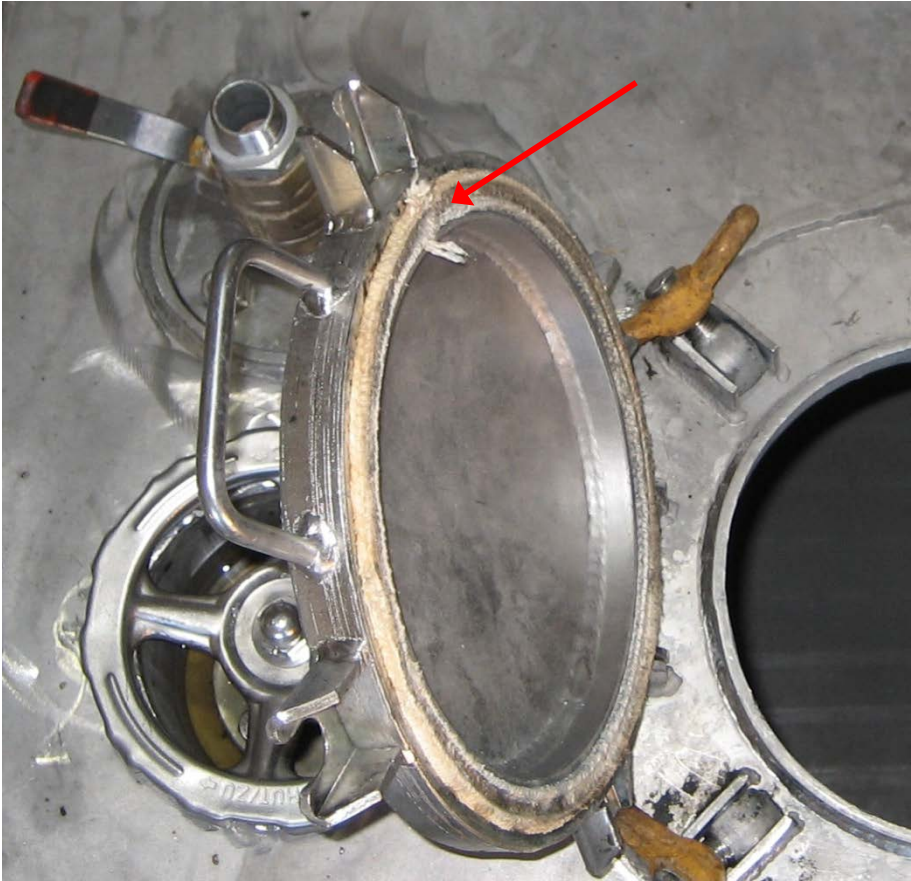
13. As those responsible for these violations (consignor, filler and tank-container operator) are undertakings based on the territory of another RID Contracting State, the violations noted will be notified to the competent authority of the RID Contracting State on whose territory the undertakings are situated, in accordance with RID 1.8.2.

### **Further information for the RID Committee of Experts' standing working group**

14. Having examined all the documents concerning this incident, Germany is not of the view that the provisions of RID should be amended. However, Germany wishes to inform the RID Committee of Experts' standing working group of this incident, because the tank-container concerned was evidently not maintained correctly and two years after the last periodic inspection, it really should not be in such a state.



Picture 1: Foreign body in bottom outlet



Picture 2: Damage to the seal on a dome cover



Picture 3: Separated identification plate of a bursting disk, welded onto the connecting flange of the safety valve



Picture 4: Gas displacement nozzle with part cut out of dome case cover

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