
Economic Commission for Europe

English

Inland Transport Committee**5 August 2015****Working Party on the Transport of Dangerous Goods****Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN)****Twenty-seventh session**

Geneva, 24-28 August 2015

Agenda item 4 (b)

Proposals for amendments to the Regulations annexed to ADN:**Other proposals**

Closed-type sampling

Submitted by the CEFIC (European Chemical Industry Council)

Introduction

1. In document CCNR-ZKR/ADN/WP.15/AC.2/27/INF.9, the EBU, ERSTU and ESO describe the sampling difficulties encountered, with some inland tankers being fitted with closed-type sampling devices or partly closed-type sampling devices. For most of the substances in Table C for which a partly closed-type or closed-type sampling device is prescribed, the proposed solution is to revert to open sampling. CEFIC sees this as a retrograde step in terms of environmental protection and safety and would like to point to solutions to the main problems described in this paper.

Description of the problem

2. To ensure sampling that is beyond reproach it is imperative to clean the sampling device after use. Prior to renewed sampling, it is crucial to purge the sampling device with the cargo to be sampled.

3. As the sampling devices on numerous inland navigation tank barges are installed without a return pipe, adequate purging of the partly closed-type or closed-type sampling device with the product is not possible.

4. The sampling system is often not purged at all or else in the case of the prescribed closed-type sampling the purging liquid is allowed to flow into an open bucket. The quantity of purging liquid is far too small to purge the entire system.

5. As there are no means on board of cleaning the sampling system after the sample has been taken, purging the system creates a problem in the case of a new cargo because in the worst-case the cargo tank is contaminated via the return pipe.

Solution

6. Create means by which the sampling devices on board vessels can be cleaned.

7. Construct the sampling device in accordance with Annex 1.

8. Train shipboard personnel in the correct use of this device.

Reason

9. Occupational safety and environmental protection and explosion proofing objectives are retained intact.

No purging liquids generated as they flow back into the cargo tank.

No repeat sampling.

When building the sampling device as per Annex 1, the use of a compressed air membrane pump requires no energy.

The vessels' idle time is reduced, reducing costs for all interested parties.

Annex 1: Schematic layout of a sampling device
Annex 1 to the INF paper “Closed-type sampling” by CEFIC

Schematic layout of a sampling device

- 1 Connection for sampling device
- 2 Pump
- 3 Sample flask
- 4 Active carbon filter/alternatively pressure relief
- 5 Sampling device
- 6 Return pipe
- 7 Tank with dome
- 8 Bottom sample pipe
- 9 Middle sample pipe
- 10 Top sample pipe
- 11 Isolation valves

The entire structure is referred to in this description as sampling device.

The red portion is portable with a stand and can be cleaned using water or a cleaning fluid and air at a special location on the vessel after sampling.

The black portion of the sampling device is permanently installed and drains of its own accord after unloading. It would be advantageous if the pipes were also to be emptied by blowing them through with compressed air/nitrogen.

The red portion that is cleaned by purging is installed on the tank to be sampled for sampling purposes. Once it has been connected and the necessary isolation valves opened, the pump is switched on, the entire system is purged for several minutes and the sample is taken from the sampling system, which is free of any “dead volume”.

Once sampling is complete, the portable part is removed and cleaned at the cleaning point.

Annex 1: Schematic layout of a sampling device
Red portion – portable sampling system
Black portion – permanent part of the sampling device

