TECHNICAL REPORT

RAPPORT TECHNIQUE

TECHNISCHER REPORT

CEN/TR 15120

August 2022

ICS 13.300; 23.020.20

Supersedes CEN/TR 15120:2013

English Version

Tanks for transport of dangerous goods - Guidance and recommendations for loading, transport and unloading

Citernes destinées au transport de matières dangereuses - Lignes directrices et recommandations pour le chargement, le transport et le déchargement

Tanks für die Beförderung gefährlicher Güter - Leitlinien und Empfehlungen für Befüllung, Beförderung und Entladung

This Technical Report was approved by CEN on 22 August 2022. It has been drawn up by the Technical Committee CEN/TC 296.

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Ref. No. CEN/TR 15120:2022 E

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European foreword

This document (CEN/TR 15120:2022) has been prepared by Technical Committee CEN/TC 296 “Tanks for the transport of dangerous goods”, the secretariat of which is held by AFNOR.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TR 15120:2013.

In comparison with the previous edition, the following technical modifications have been made:

Total revision including:

— Redraft to reflect current format rules;

— Development of recommendations on:

  — New mixtures and substances;

  — Protection against electrostatic hazards;

  — The difference between type 1 and type 2 tank-vehicle designs;

  — Vapour collection breather device operation;

  — Vapour Manifold Vent Valve operation;

  — Vapour manifold design, fabrication, and test;

— Revision of annexes.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

Introduction

This document provides guidance and recommendations to enable the transfer of product and vapour between the loading gantry, the tank-vehicle, and the service station.

The European Parliament and Council Directive 94/63/EC (VOC Directive) [1] requires operators to ensure that petroleum vapours are not emitted into the atmosphere during loading and unloading. The recommendations and guidance given in this document are intended to assist users in meeting the requirements of this Directive.

This document acknowledges that, for historical, climatic, and logistical reasons, alternative technical solutions are commonly used nationally and in the Arctic Region.

1 Scope

This document gives guidance and recommendations for loading at terminals and discharge at service stations or customer premises of tank-vehicles transporting dangerous substances of Class 3 of ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road [2] – (flammable liquids) which have a vapour pressure not exceeding 110 kPa at 50 °C and petrol, and which have no sub-classification as toxic or corrosive.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

4 Bottom loading gantry function and operation

4.1 Gantry loading equipment

4.1.1 General

It is recommended that arrangements to permit loading of a tank-vehicle, equipped according to this document, are available to all gantries on loading facilities and at least one at each loading facility in arctic regions.

NOTE The arctic region comprises Denmark, Finland, Iceland, Norway and Sweden.

4.1.2 Overfill prevention – gantry meter pre-set

The primary overfill prevention system is provided by the pre-setting of the gantry loading meter by the tank-vehicle loader for each tank-vehicle compartment, separately, before it is loaded.

Therefore, it is recommended that bottom loading is only be permitted at gantries fitted with such pre-set meters to limit the volume loaded into each tank-vehicle compartment.

NOTE 1 Overfill is the filling of a tank-vehicle or one or more of its compartments to the extent that the total volume loaded into a compartment exceeds the maximum permitted volume for transport (see Annex D).

NOTE 2 Overloading is the loading of a tank-vehicle such that its total weight exceeds that permitted by local road regulations, or the load imposed by one or more axles exceeds the local maximum authorized weight for that axle and for a semi-trailer, when its coupling to the tractor is loaded to an extent that it exceeds its design load.

4.1.3 Overfill prevention – overfill prevention system (OPS)

The secondary overfill prevention system is provided by the overfill prevention system. The secondary system is a safety system which comes into operation when the primary system fails to operate.

To ensure interoperability, it is recommended that the gantry-based components of the overfill prevention system conform to EN 13922 [3].

Annex A shows the location envelope of the tank-vehicle socket.