NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

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Safety technical requirements of oil transport tankers and refueling tankers

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1 Scope

This Standard specifies the terms and definitions, safety requirements, safety marks and logos of oil transport tankers and refueling tankers.

This Standard specifies oil transport tankers and refueling tankers that use modified chassis, shipping diesel or light fuel oil (UN No. 1202) as defined in

GB 12268, motor gasoline or gasoline (UN No. 1203), kerosene (UN No. 1223), as well as oil transport semi-trailers, refueling semi-trailers (hereinafter referred to as the oil tankers).

This Standard is not applicable to aircraft refueling vehicles.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB 1495, Limits and measurement methods for noise emitted by accelerating motor vehicles

GB 1589, Outside dimension limits of motor vehicles

GB/T 3730.3, Motor vehicles and towed vehicles - Dimensions of vehicles -Terms and definitions

GB/T 4208, Degrees of protection provided by enclosure (IP code)

GB 4351.1, Portable fire extinguishers - Part 1. Performance and construction

GB 4785, Prescription for installation of the external lighting and light signaling devices for motor vehicles and their trailers

GB 7258, Safety specifications for power-driven vehicles operating on roads

GB 11567, Motor vehicles and trailers - Lateral and underrun protections -Requirements

GB 12268, List of dangerous goods

GB 12676, Technical requirements and testing methods for commercial vehicle and trailer braking systems

GB/T 18411, Power-driven vehicles manufacturers plate

GB 18564.1, Road tanker for dangerous liquid goods transportation - Part 1.

Technical requirements of atmospheric pressure metal tank

GB/ T 19056, Vehicle travelling data recorder

GB 20300, Safety specifications for road transportation vehicle of explosive substance and chemical toxic substance

GB 20951-2007, Emission standard of air pollutant for gasoline transport

GB 21668-2008, Provisions of vehicles for the carriage of dangerous goods with regard to their specific constructional features

GB/T 24545, Requirement of speed limitation system for motor vehicles JT 230, Requirements and test methods of brake performance for city bus retarder JT/T 794, GNSS system for operating vehicles - Technical specification for vehicle terminals QC/T 518, Tightening torque for automotive threaded fasteners QC/T 932, Emergency shutoff valve of road tanker for dangerous liquid goods transportation QC/T 1061, Road transport lightweight fuel tank vehicle anti-overflow system QC/T 1062, Road transport lightweight fuel tank vehicle unloading value QC/T 1063, Road transport lightweight fuel tank vehicle oil and gas recovery components QC/T 1064, Road transport flammable liquid dangerous goods tank vehicle - breathing valve QC/T 1065, Road transport flammable liquid dangerous goods tank vehicle - manhole cover b) the oil tankers shall have grounding reel; the grounding wire of the reel shall be soft, flexible and retractable; the resistance between the grounding wire and the tanker shall be less than or equal to 5 ohm.

4.1.17 The oil tankers shall be installed with the vehicle driving recorder in accordance with GB/T 19056. The vehicle driving recorders shall be installed inside the cab and easy for the user to view and extract data.

4.1.18 The oil transport tankers and refueling tankers shall be equipped with satellite positioning system vehicle terminals in accordance with JT/T 794 regulations. The satellite positioning system vehicle terminal shall be installed in the cab. The main power supply of the satellite positioning system vehicle terminal shall be the vehicle power supply. It can be powered by the backup battery pack of the vehicle terminal when power to the vehicle is not available.

Backup battery pack can support normal working time of not less than 8h.

Power leads are clearly marked with different colors or labels (equal spacing).

The antenna shall be kept away from other sensitive electronic devices. The grounding wire of the vehicle terminal shall be connected to the vehicle chassis.

4.1.19 A overturning protection device shall be provided at the top of the tanker of the oil tankers to prevent the safety attachments and loading-unloading attachments of the tanker roof from being damaged due to collision or overturning. This device can be configured as a reinforcement ring or a protective top cover, a lateral or longitudinal member, etc. The highest point of the safety accessories and loading-unloading attachments on the top of the tanker tank shall be at least 20 mm below the highest point of this device. There shall be no fluid accumulation in the overturning protection device.

4.1.20 The exhaust pipe outlet of the oil tanker engine shall be placed before the front end surface of the tanker and not higher than the upper plane of the longitudinal beam of the chassis. The exhaust pipe shall be arranged to avoid heating and igniting the cargo. The net distance from the fuel tank pipe shall be greater than or equal to 200 mm. The net distance from the electrical switch shall be greater than or equal to 100 mm.

4.1.21 Oil transport tankers and refueling tankers, and tractors used for traction oil transport semi-trailers and refueling semi-trailers shall have speed limit devices. The speed limit device shall comply with the provisions of GB/T 24545.

The maximum speed set by the speed limit device shall be less than or equal to 80 km/h.

4.1.22 The electrical equipment of the oil tankers shall comply with the provisions of 4.3 of GB 21668-2008. The conductor shall have sufficient cross-sectional area to prevent overheating and shall be reliably insulated. Lines that are directly connected to the battery without passing through the main power switch shall be provided with overcurrent protection devices or other overheat

4.2.3.4 Emergency cutting device shall comply with the provisions of GB 18564.1. Emergency shut-off valve shall comply with the provisions of QC/T 932.

4.2.4 Oil-gas recovery system

4.2.4.1 Oil tankers shall be equipped with oil-gas recovery systems. The emission limit of the oil-gas recovery system shall comply with the provisions of

4.2.1 and 4.2.2 of GB 20951-2007. The oil-gas recovery system shall be able to open and close flexibly through the opening-closing operation device without jamming.

4.2.4.2 The components of the oil-gas recovery system shall comply with the provisions of QC/T 1063.

4.2.4.3 For oil tankers that do not require oil-gas recovery, a venting valve shall be installed

in the pipeline of the oil-gas recovery system to release the pressure inside the tank.

4.2.4.4 Requirements for installation position of oil-gas recovery coupling valves.

a) installed near the rear seal of the tank or before and after the drain valve;

when installed before and after the oil discharge valve, the distance between the center and the center of any oil discharge valve shall be less than or equal to 2130 mm;

b) when the tanker is unloaded, the distance between the center of the oil-gas recovery coupling valve and the ground shall be less than or equal to 1520 mm; at full load, the center of the oil-gas recovery coupling valve shall be at a distance greater than or equal to 610 mm from the ground.

4.2.4.5 Oil-gas recovery valve The oil-gas recovery valve shall be installed on the top of the tank. It shall be closed when not loading or unloading. It shall be turned on when air is in. It shall be automatically turned off after deflation.

4.2.4.6 Venting valve The venting valve shall be installed on the top of the tank and shall be controlled by air pressure.

4.2.5 Anti-overflow system

4.2.5.1 Oil tankers shall be equipped with an anti-overflow system. Anti-overflow system includes anti-overflow sensor and socket.