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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 18564-2001

**Road tanker for dangerous liquid goods transportation -- Part 1:
Technical requirements of atmospheric pressure metal tank**

汽车运输液体危险危险货物常压容器(罐体)通用技术条件

(English Translation)

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Foreword

The full technical content of this standard is mandatory.

GB 18564 "Land transport liquid dangerous goods tank vehicles" consists of two parts.

--- Part 1. Technical requirements for metal atmospheric pressure tanks;

--- Part 2. Technical requirements for non-metallic atmospheric tanks.

This part is the first part of GB 18564.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB 18564.1-2006 "Roller transporting liquid dangerous goods tank vehicles - Part 1. Metal atmospheric tank technology Requirements, compared with GB 18564.1-2006, except for editorial changes, the technical changes are as follows.

--- Revised the scope of application of Chapter 1 (see Chapter 1, Chapter 1 of the 2006 edition);

--- Removed the terms and definitions of "pressure", "computational pressure", "tank", "safety attachment" and "emission system" (see 3.1, 3. in 2006 edition).

2. 3.3, 3.4, 3.5);

---Modified the terminology and definition of "liquid" (see 3.1, 3.7 of 2006 edition);

---Added the terms and definitions of "tank", "tank semi-trailer", "volume" and "filling rate" (see 3.4, 3.5, 3.6, 3.7);

--- Removed the general chapter of Chapter 4 (see Chapter 4 of the 2006 edition);

--- Removed the requirement for the effective volume of the tank for the shipment of highly toxic media (see 5.1.1.4 of the 2006 edition);

--- Removed the requirements for tank design for liquid dangerous goods other than Appendix A (see 5.1.1.5 of 2006 edition);

--- Revised the requirements for material compatibility with media contact (see 4.1.1, 2006 edition 5.2.1.4);

- Increased weldability requirements for materials for non-compressed components welded to stressed components (see 4.1.2);
- Increased tank material and welding material with design pressure greater than or equal to 0.1 MPa or vacuum greater than or equal to 0.02 MPa Requirements (see 4.1.3);
- Increased material quality certificate and material marking requirements (see 4.1.4);
- Revised the general requirements for tank materials (see 4.2.1, 2006 editions 5.2.1.1, 5.2.1.2);
- Revised the selection requirements for tank materials corresponding to the shipping medium (see 4.2.2, 2006 editions 5.2.1.5, 5.2.1.6);
- Revised the selection requirements for steel for tanks (see 4.2.3, 5.2.2 of 2006 edition);
- Increased the requirements for steel for pressure components of tanks (see 4.2.3.1);
- Increased chemical composition requirements for carbon steel and low alloy steel for tanks (see 4.2.3.2);
- Removed carbon steel and low-alloy steel steel for tanks loaded with highly toxic medium, re-inspection requirements before manufacturing (see 2006 edition) 5.2.1.3);
- Revised the mechanical properties of steel for tanks (see 4.2.3.3, 5.2.2.2 of 2006 edition);
- Increased the requirements for steel plates for tanks (see 4.2.3.4);
- Revised the requirements for forgings for tanks (see 4.2.3.5, 5.2.5 of the 2006 edition);
- Revised the requirements for tubing for tanks (see 4.2.3.6, 5.2.6 of 2006 edition);
- Revised the relevant provisions of non-metallic lining materials (see 4.2.5, 5.2.4 of the 2006 edition);
- Increased the selection of welding materials should consider the mechanical properties of welded joints and the matching of the base material of the tank, and ensure the tensile strength of the welded joint Degree is greater than or equal to the lower limit specified in the parent metal standard (see 4.3.2);
- Increased welding materials should meet the requirements of NB/T 47014 welding procedure qualification, and can be used after passing the assessment (see 4.3.3);
- Increased the chloride ion content of insulation materials in contact with the surface of austenitic stainless steel (see 4.4.3);
- Modified insulation requirements (see 4.4.4, 2006 edition 5.2.8.3);
- Increased requirements for purchased parts, gaskets, fasteners (see 4.5.1, 4.5.2, 4.5.3);

- Removed the requirements for fire and anti-static (see 5.1.2 in 2006);
- Increased tank design documentation requirements, including risk assessment reports, design specifications, design calculations, design drawings, manufacturing techniques Conditions, instructions for use (see 5.1.1);
- Increased the general design of the tank design should indicate the content requirements (see 5.1.2);
- Increased the tank diagram should indicate the content requirements (see 5.1.3);
- Modified the connection requirements between the tank and the tank chassis (see 12.1, 5.3.1 of the 2006 edition);
- Revised the connection requirements between the tank and the tank semi-trailer (see 12.2, 5.3.2 of the 2006 edition);
- Increased tank design should also meet the requirements of other standards (see 5.2.1.1);
- Added a table of correspondence between tank design code and medium (see 5.2.1.2);
- Revised the requirements for the cross section of the tank (see 5.2.1.4, 5.4.1.5 of the 2006 edition);
- Increased the radius of curvature of non-circular sections (see 5.2.1.5);
- Modified the tank design should consider the load that may occur in normal work, increase the static pressure of the liquid column during the hydraulic test, delete the tank Self-weight and gravity load of the shipping medium (see 5.2.2.1, 5.4.2.1 of 2006 edition);
- Revised the inertial force that the tank design should consider (see 5.2.2.2, 5.4.2.2 of the 2006 edition);
- Revised the requirements for tank design pressure (see 5.2.4, 2006 editions 5.4.1.1, 5.4.3.1);
- Revised the requirements for calculation of tank pressure (see 5.2.5, 5.4.1.2, 5.4.3.2 of 2006 edition);
- Revised the allowable stress requirements (see 5.2.7, 5.4.6 for the 2006 edition);
- Revised conditions that may not consider material corrosion allowance (see 5.2.8.2, 5.4.7.2 of 2006 edition);
- Revised the criteria for determining the degree of toxicity of the medium (see 5.2.9.3, 5.4.8.3 of the 2006 edition);
- Revised the calculation method and requirements for the maximum allowable filling amount (see 5.2.10, 5.4.9 of 2006 edition);

- Revised the calculation requirements for the calculated thickness of the tank (see 5.1.21, 5.4.10 of the 2006 edition);
- Revised the tank joint coefficient requirements, the tank body should be fully welded through butt joints, the welded joint coefficient should be selected according to the selected the standard is determined (see 5.2.12, 5.4.10 of the 2006 edition);
- Revised the cylinder with the protection device set according to the reference steel and the maximum radius of curvature less than or equal to 2000mm Minimum thickness requirements for non-circular cylinders (see 5.2.13.3, 5.4.13.3 of the 2006 edition);
- Increased the radius of curvature of the two sides is less than or equal to 2000mm, the radius of curvature of the top and bottom is less than or equal to 3000mm Minimum thickness requirements for non-circular cylinders (see 5.2.13.4);
- Revised the requirements for protective devices to prevent the rigid failure of the cylinder (see 5.2.1.5, 5.4.13.4 of the 2006 edition);
- Modified welding joint design requirements (see 5.2.15.1, 2006 edition of 5.4.1.3, 5.4.1.4);
- Revised the design requirements for the head and compartment board (see 5.2.15, 5.4.13.5, 5.4.13.6 of the 2006 edition);
- Modified the size of the manhole and specified the tank of multiple warehouses. At least one manhole should be set for each bin (see 5.2.15.4, 2006 edition) 5.4.16);
- Revised the requirements for overturning protection devices (see 5.4.11, 5.4.18.1 of the 2006 edition);
- Removed the design requirements for the liner tank (see 5.4.18.2 of the 2006 edition);
- Increased the connection requirements of structural parts and tanks (see 5.2.17);
- Revised the requirements for stress check of the joint between the tank and the support (see 5.2.13, 5.4.12.3 of the 2006 edition);
- Modified the layout of pipelines, increasing the distance requirements between pipelines and exhaust pipes, silencers and fire-stop devices, and piping and piping accessories Nominal pressure requirements (see 5.3.3, 5.6.4 of the 2006 edition);
- The modification clarifies that when the third part of the tank design code is C and D, the loading and unloading piping system should be placed at the top of the tank (see 5.4.3, 5.4.4, 5.8.3, 5.8.4, 5.8.5) of the 2006 edition;
- Increased for flammable media, the circuit in the pumping system should meet the requirements of IP54 protection class specified in GB/T 4208 (see 5.5.4);
- Modified the requirements for the setting of escalators, collapsible guardrails and aerial