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

GB 16994.2-2021

**Safety requirements for port operation - Part 2: Petrochemical
storage area**

港口作业安全要求 第2部分：石油化工库区

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document is Part 2 of GB 16994 "Safety Requirements for Port Operations". GB 16994 has released the following parts.

1. Oil and gas chemical terminal;

2. Petrochemical reservoir area;

3. Dangerous cargo containers. This document replaces GB 17379-1998 "General Rules for Port Storage of Bulk Petroleum and Liquid Chemical Products". Compared with GB 17379-1998, In addition to structural adjustments and editorial changes, the main technical changes are as follows:

---Change the scope of application of this document (see Chapter 1, Chapter 1 of the.1998 edition);

---Deleted some basic requirements that are not applicable (see 4.1~

4.3 of the.1998 edition);

--- Deleted the classification of bulk liquids (see

4.5 in the.1998 edition);

---Deleted the content related to the design of the storage area (see 5.1, 5.2, 5.5, 6.1~6.6, 7.2.1, 9.1.1~9.1.3, 9.1.5,.1998 version of the 9.2.2~9.2.5);

---Deleted clauses that are not related to the safety requirements of port operations in

petrochemical reservoir areas (see.1998 edition of 5.4.2, 5.4.3, 7.1, 7.2.9, 10.1.1, 10.2, 10.3, 10.5, 10.7);

--- Deleted part of the requirements for the management of the storage tank farm (see 7.2.3~

7.2.7 in the.1998 edition);

1 Scope

Part 2 of China's mandatory safety requirements for port operations, covering petrochemical storage areas. The tank farm behind a liquid bulk terminal holds the cargo between ship and pipeline, and it is the part of a port where the largest quantities sit still for the longest time. Its accidents are the ones that make the news: an overfilled tank that releases a vapour cloud, a floating roof that sinks and exposes the surface, a bund that cannot hold what it was built to hold, and the fire that spreads from one tank to its neighbours because the spacing was wrong. The requirements address exactly those - the tank spacing and the bund capacity, the overfill protection independent of the gauging system, the venting, the foam and cooling water systems and their capacity for the largest credible fire, the drainage that must not carry product off site, and the hazardous area classification.

This document specifies the general requirements, operational safety requirements, special operational requirements and emergency management during the operation of the port petrochemical reservoir area. Require. This document is applicable to the port storage, loading and unloading of bulk oil, bulk liquid chemicals, and bulk liquefied gas (except LNG) warehouse operations.

2 Normative references

The content of the following documents constitutes an indispensable clause of this document through normative references in the text. Among them, dated quotations Only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to This document.

GB 2893 safety color

GB 2894 safety signs and guidelines for their use

GB 7231 Basic identification colors, identification symbols and safety signs of industrial pipelines

GB 12158 General Guidelines for Preventing Electrostatic Accidents

GB 13348 Electrostatic Safety Regulations for Liquid Petroleum Products

GB 30871 Safety Code for Special Operations of Chemical Production Units

GB 39800.1 Personal protective equipment equipment specification Part

3 Terms and definitions

There are no terms and definitions that need to be defined in this document.

4.1 Basic regulations

4.1.1 The port petrochemical storage area (hereinafter referred to as the "reservoir area") shall be managed by division and classification according to the dangers of the stored petrochemical products. And control the safety distance in accordance with the relevant requirements of GB 50074, GB 50160, GB 50737, etc.

4.1.2 Storage tanks should not be stored at over-temperature, over-pressure, or over-liquid level, and the storage type should be consistent with the operating permit.

4.1.3 Systems such as safety instrumentation, gas monitoring, fire control, automatic interlock protection, and emergency shutdown should be tested regularly. Explosion-proof equipment,