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

**GB/T 3146-1982**

Replacing GB/T 3146-1982

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**Industrial aromatic hydrocarbons and related materials --  
Determination of distillation range -- Part 1: Distillation method  
(English Translation)**

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### Foreword

GB/T 3146 "Industrial Aromatic Hydrocarbons and Related Materials distillation range of measurement" is divided into two parts.

--- Part 1. distillation;

--- Part 2. Chromatography.

This section GB/T 3146 Part 1.

This section uses redrafted law revision by the United States Society for Testing and Materials standard ASTM D850-03 (2008) epsilon1 "Aromatic and Industrial Related materials Determination of distillation range. " this portion ASTM D850-03 (2008) epsilon1 have more adjustments in the structure, listed in Appendix A of this section and ASTM D850-03 (2008) reg number of control list epsilon1.

This portion ASTM D850-03 (2008) epsilon1 technical differences and their reasons are as follows.

--- For Chapter 2, "Normative references" in this section have been adjusted technical differences, in order to adapt to China's technical conditions, with Body adjusted as follows.

- 1) with the GB/T 4756 instead of ASTM D3437;
- 2) with GB/T 6536-1997 instead of ASTM E133;
- 3) with GB/T 8170 instead of ASTM E29;
- 4) Remove the ASTM D4790;
- 5) Remove the ASTM E691;
- 6) increase the GB/T 16483;

--- For more standardized definitions of terms to facilitate understanding of the method of this section to increase the initial boiling point (3.1) In Chapter 3, the decomposition point

(3.2), dry point (3.3) and end point (3.4) of the terms and definitions, and ASTM D850-03 (2008) epsilon1 12.2 and 12.3 Scale is defined in relation to an increase in distillate content in this chapter as a distillation range (3.5) terms and definitions;

--- In order to meet our standards, this section will ASTM D850-03 (2008) epsilon1 in Chapter 5, "meaning and purpose" for content for the "Introduction";

--- This section in accordance with China's national conditions, deleted ASTM D850-03 (2008) epsilon1 in 6.6.1 use gaslights heating distillation the way;

--- Because our current product standards xylene report final boiling point, increased this section 9.1.4 regarding the "9.1 Manual Distillation Procedure" Observe the final boiling point of content;

--- This section increases the precision of the xylene in the final boiling point of 12.2, due to our existing product standards xylene report final boiling point;

--- In order to meet our standards, this section deleted ASTM D850-03 (2008) epsilon1 in Chapter 15 Categories of content;

--- In order to facilitate check, this part of the increase in Appendix B, given the changes in atmospheric pressure thermometer calibration values.

This section also made the following editorial changes.

--- Removed ASTM D850-03 (2008) epsilon1 about 1.2 units instructions to meet our standards.

This Part replaces GB/T 3146-1982 "Determination of distillation range benzene products" in the distillation.

This section compared with GB/T 3146-1982 The main changes are as follows.

--- In order to maintain consistency with the ASTM D850-03 (2008) epsilon1 name, and in accordance with sub-section of the standard name of the rules for preparation, this part of the name from "benzene products Determination of distillation range" to "Industrial Aromatic Hydrocarbons and Related Materials Determination of distillation range - Part 1. Steam Distillate Law";

--- This section in Chapter 2, supplemented with the appropriate normative references;

--- This part of the increase in Chapter 3, "Terms and Definitions", Chapter 6, "hazard", Chapter 13, "quality control" of the content;

--- This part of the GB/T 3146-1982 3.1 in the sampling process has been modified in this section in Chapter 7 requires the removal of the free Water is not allowed to remove dissolved water, no longer predetermined sample temperature;

--- This part of the increase in Chapter 5 of the automatic distillation unit, the distillation can

be automatically measured, precision automatic methods benzene is not given;

--- Remove the GB/T 3146-1982 Chapter 1 Content "instrument" in this part of GB/T 6536-1997 distillation apparatus, temperature Meter using indexing is 0.2 °C industrial aromatics distillation thermometer or equivalent ASTM thermometer, a receiver to Normal Cylinder;

--- Revised GB/T 3146-1982 of 4.6 Thermometer calibration method, eliminating exposed thermometers, in this part of Chapter 10 Thermometers were calibrated itself and atmospheric pressure on the thermometer calibration, and increased joint optional thermometer with atmospheric pressure calibration;

--- In this section 9.1.3 in the test procedure end point of observation methods were modified by the addition of dry observation point and the decomposition point and content of the report, by deleting the GB/T 3146-1982 4.4 The end point is defined;

--- In order to maintain and ASTM D850-03 (2008) Consistency epsilon1 precision, accuracy This section has been modified, deleted GB/T 3146-1982 repetitive content in 12.1.1 and 12.2.1 introduced intermediate precision;

--- Since the GB/T 3146-1982 distillation and chromatography is divided into two parts, this section deleted GB/T 3146-1982 in color Spectroscopy content;

--- In order to facilitate comparison and calculation Now, this part of the increase of Appendices A and B, are informative appendices.

This part is proposed by the China Petroleum and Chemical Corporation.

This part of the National Standardization Technical Committee on Petroleum Products Lubricants oil and lubricants and fuels Technical Committee (SAC/TC280/SC1) centralized.

This section drafted by. China Petroleum and Chemical Corporation Jinling Branch.

## Introduction

This section applies to the development of product specifications, can also be used as internal quality control tool, but can also be used to open aromatics industry and related materials Hair or development work.

This section can largely determine the purity of the product and whether the presence of excess water. This part can not distinguish fractionation process similar products.

This part is after GB/T 3146 a partial revision of the Restructuring is completed, the second part will be developed in the future.

Determination of Industrial Aromatic Hydrocarbons and Related Materials distillation range Part 1. distillation Warning This section has no intention of all safety issues are related to this recommendation. Therefore, the user should be established before using this section

Appropriate safety and health practices and determine the applicability of regulatory limitations related. This section details see hazards 5.6 and Chapter 6.

## 1 Scope

GB/T 3146 This section specifies the method for determination of Industrial Aromatic Hydrocarbons and Related Materials distillation range by distillation.

This section applies to a narrower and between 30 °C ~ 250 °C Determination of distillation range of industry-related materials and aromatic distillation range.

## 2 Normative references

The following documents contain provisions which, through reference to GB/T 3146 to the present, constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement can use the latest versions of these files. For undated reference documents, the latest versions apply to this section.

GB/T 4756 petroleum liquids hand sampling method GB/T 6536-1997 Petroleum products - Determination of distillation GB/T 8170 repair value expressed about the rules and limit values  
 GB/T 16483 MSDS Content and Order ASTM D1078 volatile organic liquid test method for distillation ASTM E1 thermometer technical indicators  
 ASTM E220 thermocouple comparison calibration method

## 3 Terms and Definitions

The following terms and definitions apply to the GB/T 3146 of this section.

IBP initial boiling point Dropping the first drops of condensate from the condenser of the lower end of the moment observed thermometer readings.

**NOTE:** temperatures are expressed °C.

[GB/T 6536-1997 in 3.4] 3.2 Decomposition point Distillation flask liquid is beginning to show the thermal decomposition when the thermometer reading.

**NOTE:** distillation flask when the thermal decomposition of smoke, temperature fluctuations, even adjust the temperature still decreased.

[GB/T 6536-1997 in 3.1] 3.3 Dry point Instant read thermometer observed last drop of liquid vaporization distillation flask lowest point. In the distillation flask wall or a thermometer any film or droplets on will not be considered.

[GB/T 6536-1997 in 3.2]