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

GB/T 3393-2009

Replacing GB/T 3393-1993

**Ethylene and propylene for industrial use -- Determination of
trace hydrogen -- Gas chromatographic method**

工业用乙烯、丙烯中微量氢的测定 气相色谱法

(English Translation)

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Foreword

This standard ASTMD2504. 1988 (2004) "A gas chromatographic analysis Standard Test Method for C2 and light hydrocarbon products of non-condensable gas" (In English) the degree of consistency is not equivalent.

This standard replaces GB/T 3393-1993 "industrial use of ethylene, propylene trace hydrogen gas chromatography." this standard compared with GB/T 3393-1993 The main changes are as follows.

- Increased PoraPakQ packed columns, chromatographic conditions PLOT/Q capillary column and the chromatogram;
- Revised standards formulated content, increasing the standard formulated with the relevant requirements of the gas;
- Increased injection and backflushing valve control path connection diagram for;
- Remove the organic vehicle packed column 407 and chromatographic conditions;
- Increased by 7.3 NOTE gasification of liquid propylene control supplement.

The standard proposed by China Petroleum and Chemical Corporation.

This standard by the National Standardization Technical Committee Petrochemical Chemical Technical Committee (SAC/TC63/SC4) centralized.

This standard was drafted. China Petroleum & Chemical Corporation Shanghai Research Institute of Petrochemical.

1 Scope

This standard specifies the determination by gas chromatography for industrial use ethylene, propylene trace hydrogen content.

This standard applies to industrial use ethylene, propylene concentration of not less than 1mL/m³ (packed column) or 2mL/m³ (capillary column) the hydrogen content Determination.

This standard is not intended to illustrate its use of all safety-related issues. The user's responsibility to take appropriate safety and health measures Facilities, to ensure compliance with the provisions of the relevant national regulations.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 3723 Sampling of chemical products for industrial use General Safety (GB/T 3723-1999, idtISO 3165. 1976) GB/T 8170 repair value expressed about the rules and limit values and judgment GB/T 13289 Industrial liquid and gaseous ethylene sampling method (GB/T 13289-1991, neqISO 7382. 1986) GB/T 13290 Industrial liquid propylene and butadiene sampling method (GB/T 13290-1991, neqISO 8563. 1987)

3 Method summary

Under the conditions specified in this standard, (after gasification or liquid) through a gas sample inlet system by the carrier gas into the column. The hydrogen thereto He fractionation detected with a thermal conductivity detector. Records hydrogen peak area using external standard.

4 Reagents and materials

4.1

The carrier gas

Nitrogen purity (volume fraction) $\geq 99.99\%$, silica gel and molecular sieve 5A dried, purified.

4.2 Preparation of standard gas

Ethylene. Purity (volume fraction) of not less than 99.95%, a hydrogen content not more than 1mL/m³.

Nitrogen. Purity (volume fraction) of not less than 99.999%, a hydrogen content not more than 1mL/m³.

Hydrogen. Purity (volume fraction) of not less than 99.99%.

4.3 Standard

Hydrogen can be standard market purchases or self-certified standard samples prepared emboldened nitrogen or ethylene (4.2), emboldened hydrogen content should be less than 1mL/m³, or should be amended. Hydrogen content standard should be similar to the test sample.

5.1 Gas Chromatograph

Configuration with gas sampling valve (quantitative pipe volume 1mL ~ 3mL), cleaning system and a thermal conductivity detector (TCD) of the gas chromatograph.

Minimum peak hydrogen concentration was measured under the instrument specified in this standard generated by high should be at least two times greater than the noise. Gas injector cleaning system the system shown in Figure 1. Other injection and cleaning means to meet this standard separation and quantification of the effect may also be used.