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ICS 91.100.50
CCS Q27

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INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 3802-2014

Determination of free diisocyanate esters in polyurethane adhesives used in building for import and export

进出口建筑用聚氨酯粘接剂中游离二异氰酸酯类化合物的测定

(English Translation)

Issued on: January 13, 2014 **Implemented on: August 1, 2014**

Issued by: General Administration of Customs

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard is proposed and managed by the National Certification and Accreditation Administration Committee.

This standard was drafted. People's Republic of China, Xiamen Entry-Exit Inspection and Quarantine Bureau Technology Center, Wenzhou People's Republic of China Exit Inspection and Quarantine.

1 Scope

This standard specifies the construction and export polyurethane adhesive free diisocyanate compound (1,4-phenylene diisocyanate, toluene Diisocyanate, hexamethylene diisocyanate, trimethyl hexamethylene diisocyanate, isophorone diisocyanate, diphenyl methane diisocyanate Ester) content by gas chromatography - mass spectrometry (GC-MS) and gas chromatography (GC). Wherein the gas chromatography - mass spectrometry for the arbitration law.

This standard applies to import and export building free polyurethane adhesive 1,4-phenylene diisocyanate, toluene diisocyanate, hexamethylene Methyl diisocyanate, trimethyl hexamethylene diisocyanate, isophorone diisocyanate and diphenyl methane diisocyanate content Determination.

Principle 2

The sample was dried by molecular sieves ultrasonic extraction with ethyl acetate. After the extract was filtered by gas chromatography - mass spectrometry and gas chromatography, Internal standard.

3 Reagents and materials

Unless otherwise indicated, the reagents used were of analytical grade.

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3.1
molecular sieves (0.5nm). 4h before firing at 500 °C using a muffle furnace, placed in a desiccator to cool for use.

3.2
ethyl acetate. 250g per 500mL added molecular sieve (3.1), place the filter after 24h.

3.3
diisocyanate compound Standard. See Appendix A in Table A.1.

3.4
tetradecane (n-Tetradecane, CAS No. 629-59-4). purity >=98%.

3.5
internal standard stock solution. Weigh accurately 1.0g n-tetradecane (3.4) standard (accurate to 0.0001g) in 100mL flask with acetic acid Ethyl ester (3.2) diluted to the mark, formulated at a concentration of 10mg/mL stock solution of the internal standard.

3.6
standard stock solution. Accurately weigh an adequate amount of diisocyanate compound standards, preparation of standard stock solution with ethyl acetate (3.2).

Standard stock solution should be stored away from light, and avoid contact with moisture in the air.

3.7
standard solution. Pipette appropriate amount of standard stock solution (3.6), adding an appropriate amount of internal standard stock solution (3.5), diluted with ethyl acetate (3.2) into Applicable standard working solution concentration. Standard working solution should be stored away from light, and avoid contact with moisture in the air.

3.8
The organic phase filter. 0.22μm.

4 Instruments and equipment

4.1
Gas chromatograph with mass detector.

4.2
Gas chromatograph equipped with a flame ionization detector.

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4.3
vortex mixer.

4.4
ultrasonic cleaner (power >=220W).

4.5
centrifuge. speed of not less than 4000r/min.

4.6
plug cuvette. 10mL.

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