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

GB/T 32440.1-2023

**Footwear-Chemical tests-Determination of phthalate-Part 1:
Solvent extraction**

鞋类 化学试验方法 邻苯二甲酸酯的测定 第1部分：溶剂萃取法

(English Translation)

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Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009.

This Standard's translation equivalently adopts ISO/TS 16181.2011 Footwear - Critical Substances Potentially Present in Footwear and Footwear Components - Determination of Phthalates in Footwear Materials.

This Standard made the following editorial changes.

--- The reagents in 3.2 were adjusted as per the order of ordinary reagent and internal standard substance.

This Standard was proposed by China Light Industry Council.

This Standard shall be under the jurisdiction of National Technical Committee for Standardization of Footwear (SAC/TC 305).

Drafting organizations of this Standard. China Leather and Footwear Research Industry, Ritai Group Co., Ltd., Dongguan Xihuwei Industry Co., Ltd., Zhejiang Taizhou Xidebao Shoes Co., Ltd., and China Leather and Footwear Research Industry (Jinjiang) Co., Ltd..

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Footwear - Critical Substances Potentially Present in
Footwear and Footwear Components -

Determination of Phthalates in Footwear Materials

SAFETY PRECAUTIONS - Persons using this Technical Specification should be familiar with normal laboratory practice. This Technical Specification does not claim to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulator conditions.

IMPORTANT - It is absolutely essential that tests conducted according to this Technical Specification be carried out by suitably trained staff.

1 Scope

This Technical Specification specifies a test method to determine the presence of phthalate compounds. This test method is applicable to all types of footwear materials.

NOTE 1: This test method can also be used to determine plasticizers other than those listed in 3.2, subject to validation.

NOTE 2: ISO/TR 16178 defines which materials are concerned by this determination.

2 Principle

The aim of the method is to extract phthalates in footwear materials such as leather, textile, polymer, coated materials or others. This method uses extraction apparatus with n-hexane/acetone as solvent.

The total extractable phthalate plasticizer content is calculated by weight with gas chromatography-mass spectrometry (GC-MS) detection to identify and quantify individual phthalates.

3.1 Apparatus

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