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**Kosmetik – Provningsmetod för solskydd – In vivo bestämning
av solskyddsfaktor (SPF) (ISO 24444:2010)**

**Cosmetics – Sun protection test methods – In vivo determination
of the sun protection factor (SPF) (ISO 24444:2010)**



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EUROPEAN STANDARD

EN ISO 24444

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2010

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English Version

Cosmetics - Sun protection test methods - In vivo determination of the sun protection factor (SPF) (ISO 24444:2010)

Cosmétiques - Méthodes d'essai de protection solaire -
Détermination in vivo du facteur de protection solaire (FPS)
(ISO 24444:2010)

Kosmetik - Untersuchungsverfahren für Sonnenschutzmittel
- In-vivo- Bestimmung des LSF (Lichtschuttfaktors) (ISO
24444:2010)

This European Standard was approved by CEN on 26 May 2010.

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Foreword

This document (EN ISO 24444:2010) has been prepared by Technical Committee ISO/TC 217 "Cosmetics" in collaboration with Technical Committee CEN/TC 392 "Cosmetics" the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2011, and conflicting national standards shall be withdrawn at the latest by May 2011.

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Introduction

The level of sun protection provided by sunscreen products has traditionally been estimated using the sun protection factor or SPF test, which uses the erythema response of the skin to ultraviolet (UV) radiation. The SPF is a ratio calculated from the energies required to induce a minimum erythema response with and without sunscreen product applied to the skin of human volunteers. It uses ultraviolet radiation usually from an artificial source.

Different standard methods are available and described in the technical report ISO/TR 26369^[4].

These standards are similar by some parameters but different by others. Differences can lead to discrepancy of results. Harmonization is therefore necessary to get the same SPF value for a single product whatever the country in which it is tested.

Cosmetics — Sun protection test methods — *In vivo* determination of the sun protection factor (SPF)

1 Scope

This International Standard specifies a method for the *in vivo* determination of the sun protection factor (SPF) of sunscreen products. This International standard is applicable to products that contain any component able to absorb, reflect or scatter ultraviolet (UV) rays and which are intended to be placed in contact with human skin.

It provides a basis for the evaluation of sunscreen products for the protection of human skin against erythema induced by solar ultraviolet rays.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1

ultraviolet radiation

UVR

electromagnetic radiation in the range of 290 nm to 400 nm

2.1.1

ultraviolet B

UVB

electromagnetic radiation in the range of 290 nm to 320 nm

2.1.2

ultraviolet A

UVA

electromagnetic radiation in the range of 320 nm to 400 nm

NOTE UVA II = 320 nm to 340 nm; UVA I = 340 nm to 400 nm.

2.2

erythema

reddening of the skin caused by UV radiation

2.3

sunscreen products

products containing any component able to absorb, reflect or scatter UV rays, which are intended to be placed in contact with human skin

2.4

minimal erythema dose

MED

lowest dose of ultraviolet radiation (UVR) that produces the first perceptible unambiguous erythema with defined borders appearing over most of the field of UV exposure, 16 h to 24 h after UV exposure