



Technical Guidelines for Application of Threshold of Toxicological Concern (TTC) Method (Draft for Comments)

毒理学关注阈值 (TTC) 方法应用技术指南
(征求意见稿)

National Institutes for Food and Drug Control

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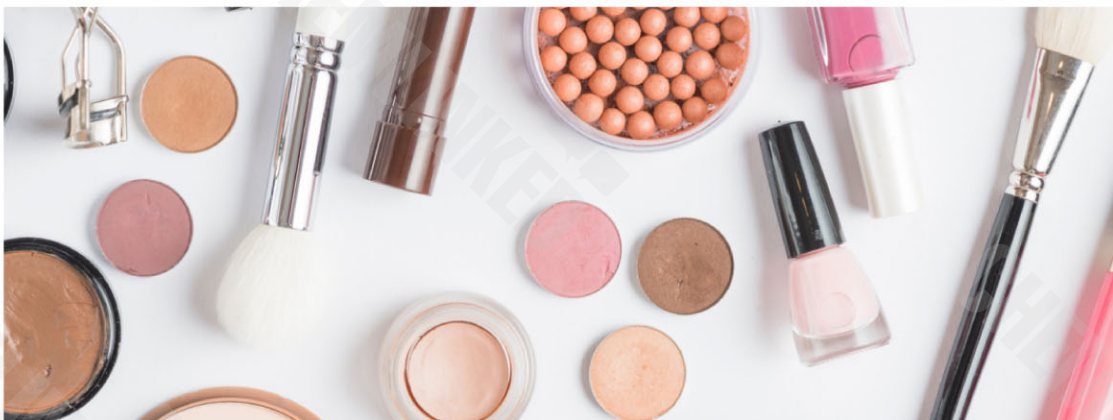
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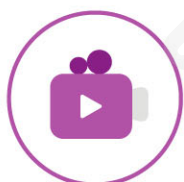


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(Draft for Comments)**

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1. Overview

The threshold of toxicological concern (TTC) method is based on the fundamental assumption that the toxic effects of a chemical is mainly related to its structure. The key to this is to determine whether the chemical is suitable for the TTC method and to conduct structural classification, and not to underestimate the exposure level.

This "Guidelines (Draft for Comments)" introduces TTC application in cosmetic safety assessments, clarifying the scope of application, terms and definitions, substance classification, assessment procedures, and use requirements for mixtures with regard to the TTC method.

2. Scope of Application

This "Guidelines (Draft for Comments)" is applicable to cosmetic ingredients or risk substances that have a clear chemical structure, have no structural alert for serious mutagenicity, have a low concentration, and lack of systemic toxicologic research data.

It is not applicable to these ingredients or risk substances, including metals or metal compounds, potent carcinogens (e.g., aflatoxins, nitroso compounds, and benzidines), proteins, steroids, high-molecular weight substances, very bioaccumulative substances, radioactive chemicals, etc.; ingredients with preservative, sunscreen, coloring, hair dyeing, freckle-removing and whitening, anti-hair loss, anti-acne, anti-wrinkle (excluding physical anti-wrinkle), anti-dandruff, deodorant functions, and with high bioactivity; ingredients, nanomaterials, and inorganics, etc. with risk of inhalation.

3. Terms and Definitions

3.1 Threshold of toxicological concern (TTC)

The level of exposure at or below which it is expected to have no risk to human health.

3.2 Systemic exposure dosage (SED)

The estimated level of a substance to be assessed entering the systemic circulation through various exposure pathways, usually expressed in $\mu\text{g/kg bw/day}$.

3.3 Potential DNA-reactive mutagens/carcinogens

Substances that directly act on DNA and may cause DNA damage, leading to replication errors or potentially inducing cellular canceration.

3.4 Cramer class

In TTC assessment, chemicals are classified into Cramer I, Cramer II, and Cramer III



Free



Free trial



Standard



Corporate



Special

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