

TECHNICAL DATA SHEET

Product Name: Turmeric Powder Standardized Curcuminoids 95%

INCI Name: Curcuma Longa (Turmeric) Root Extract

CAS: 84775-52-0; 8024-37-1

Synonyms: Turmeric Extract; Curcuma Longa Root Extract; Turmeric Root Extract; Curcuminoids 95%; Curcumin Extract; Turmeric Curcuminoid Extract

Product Quality: Standardized turmeric rhizome extract containing 95% total curcuminoids

IUPAC Name: Not applicable to the extract as a whole, as it represents a mixture of several structurally related curcuminoids. The main component, curcumin, has the IUPAC name (1E,6E)-1,7-bis(4-hydroxy-3-methoxyphenyl)hepta-1,6-diene-3,5-dione and CAS number 458-37-7.

Description: Standardized Turmeric Extract Powder – Curcuminoids 95% is a highly concentrated botanical raw material obtained from the rhizome of *Curcuma longa* L., with a laboratory-confirmed total curcuminoid content of at least 95%. The curcuminoid fraction is primarily composed of curcumin, demethoxycurcumin and bisdemethoxycurcumin, with curcumin representing the dominant component. These compounds belong to lipophilic polyphenols and are responsible for the characteristic intense yellow-orange colour of the extract. The extract is particularly suitable for antioxidant, soothing and anti-age formulations, as well as formulations intended for the care of skin with an uneven-looking complexion. Physicochemical properties: Fine, homogeneous powder of intense yellow to orange-yellow colour, with a characteristic botanical odour. Standardized to contain at least 95% total curcuminoids. Curcuminoids are very poorly soluble in water at acidic and neutral pH, but show significantly better solubility in ethanol and other suitable organic solvents. Due to their pronounced pigmentation, even small amounts may intensely colour the final formulation. The extract should be stored tightly closed, protected from direct light, moisture, air and elevated temperatures.

Bioactive Compounds: The main bioactive fraction consists of curcuminoids, a group of structurally related polyphenolic compounds dominated by curcumin, demethoxycurcumin and bisdemethoxycurcumin. Commercial curcuminoid extracts usually contain the

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highest proportion of curcumin, together with smaller amounts of demethoxycurcumin and bisdemethoxycurcumin, although their exact ratio depends on the botanical raw material and the standardization process. Curcumin is the main curcuminoid and the most important bioactive component of the extract. Chemically, it is diferuloylmethane with two aromatic phenolic groups linked by a conjugated dicarbonyl chain. This structure enables the neutralization of reactive oxygen species and contributes to the pronounced antioxidant character of the compound. Curcumin is also associated with modulation of various inflammatory pathways, which is why it is extensively investigated in dermatological and cosmetic formulations. Demethoxycurcumin is structurally related to curcumin but contains one fewer methoxy group. It is present as the second significant component of the curcuminoid fraction and contributes to its overall antioxidant activity. Bisdemethoxycurcumin lacks the methoxy groups present in curcumin and represents the third major naturally occurring curcuminoid. The combined presence of these three compounds determines the chemical profile of the standardized extract containing 95% total curcuminoids. In addition to curcuminoids, the extract may contain traces of other naturally occurring components of the rhizome, including aromatic turmerones and other sesquiterpenes, although their content in a highly standardized extract is usually considerably lower and depends on the manufacturing technology.

Benefits:

- Strong antioxidant activity – helps neutralize free radicals and protect the skin from oxidative stress.
- Soothing effect – helps reduce signs of irritation and the skin's inflammatory response.
- Protection against premature ageing – helps maintain the healthy appearance of skin exposed to external factors.
- Helps even the appearance of the complexion – suitable for formulations intended for skin with uneven pigmentation and a tired appearance.
- Support for skin regenerative processes – curcumin is being investigated for its potential to contribute to skin renewal and the maintenance of skin barrier function.

Directions for Use: Standardized turmeric extract containing 95% curcuminoids is not suitable for direct dissolution in water, as curcuminoids have very low solubility in aqueous systems. In formulations, pre-dissolution or dispersion in a suitable solvent or carrier is recommended.

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er is recommended. Ethanol is one of the more practical solvents for curcuminoids, while in alcohol-free formulations suitable cosmetic solubilizers, emulsifiers, lipid carriers or fine-dispersion systems may be used. In emulsions, the extract may be pre-dispersed in an appropriate portion of the oil phase or in a compatible carrier, while aqueous serums and toners require an efficient solubilization or dispersion system. Pre-dispersing the powder in glycerin or propanediol may facilitate wetting and prevent lump formation, but this alone does not mean that the curcuminoids will be completely dissolved. For facial serums and emulsions, a practical starting range for such a concentrated extract is approximately 0.05–0.3%, while around 0.1–0.5% may be used in more intensive antioxidant formulations. In creams and masks, a suitable concentration is approximately 0.05–0.5%, while approximately 0.1–0.5% may be considered for body products. For completely clear toners and essences, considerably lower concentrations of approximately 0.01–0.1% are recommended, together with an appropriate solubilization system. These values represent formulation guidelines for a highly standardized extract, while the final concentration should be aligned with the specification of the specific manufacturer. Particular attention should be paid to the intense yellow-orange pigmentation, as even relatively low concentrations may significantly colour the product, skin, textiles or packaging. For leave-on products, it is therefore often advisable to begin with very low concentrations and then gradually increase the level after evaluating the colour and acceptability of the final formulation.

Animal Testing: In accordance with current European legislation (Regulation (EC) No 1223/2009 on cosmetic products), the substance has not been tested on animals. The safety assessment of the raw material is based on available toxicological data, scientific literature and validated alternative testing methods (in vitro and in silico). In silico is a term used for testing and assessment methods carried out using computer models and simulations, rather than in laboratories on living organisms (in vivo) or on cell cultures (in vitro). This statement confirms compliance with the ban on animal testing and is provided solely for informational purposes regarding the further use of the raw material in cosmetic formulations.

GMO: Non-GMO

Vegan: Does not contain components of animal origin

Country of Origin: China

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