Benzophenone-4

Benzophenone-4 is a water soluble broad band UV-filter. It has worldwide approval for skin protection and it is widely used in sun preparations. It can also offer protection of colorants against fading and help stabilize fragrances and active ingredients against oxidation.

**CAS No. / EINECS** 4065-45-6 / 223-772-2

**INCI/CTFA** Benzophenone-4

**CN Code** 2914 7000

**SPECIFICATION**

**Chemical structure**

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\[
\text{Chemical formula} \quad C_{14}H_{12}O_{6}S \\
\text{Molecular weight} \quad 308.31
\]
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**Appearance** white or light yellow, crystalline powder

**Identification** UV absorptivities do not differ by more than 3.0%

**Water** not more than 2.0%

**Assay (HPLC)** 97.0% - 103.0%

*meets the quality requirements of the current USP monograph for Sulisobenzone

**Other physical-chemical properties**

**Specific extinction** \( E_{285} \geq 460 / E_{325} \geq 290 \)

**Melting point** \( \geq 140^\circ\text{C} \)

**Colour (Gardner)** \( \leq 2.0\% \)
Microbiological limits
- Total aerobic count max. 100cfu/g

Storage and packaging
- Expiry date
  in unopened original packaging and under adequate storage conditions minimum 24 months after production date
- Storage condition
  cool, dry, well-ventilated place at room temperature
- Standard packaging
  25kg fiber drum

REACH
Benzophenone-4 has been pre-registered.
The final REACH registration will consider and assess the uses recommended by COLIPA.

Formulating
Benzophenone-4 is approved world-wide, the maximum concentration in ready for use preparations varies according to local legislation.
Benzophenone-4 is listed in Annex VI of Regulation (EC) No 1223/2009 (max 5%, as acid).
The sulfonic acid group makes Benzophenone-4 soluble in water, these acid group must be neutralized with one of the usual neutralizing agents, e.g. NaOH. The yellow color of Benzophenone-4 is intensified by neutralization; this may change the coloration of the solution.
It should be noted that Benzophenone-4 is not compatible with Magnesium salts.

Toxicological data
The Expert Panel released the Final Report on the Safety Assessment of Benzophenones-1, -3, -4, -5, -9, and -11 (December 18, 1981) stating that these ingredients were safe as used in cosmetic products.
A CIR (cosmetic ingredient review) report is available.

Producer: MFCI Huangshi Meifeng Chemical Co., Ltd.; China

The data submitted in this publication are based on our current knowledge and experience. They do not constitute a guarantee in the legal sense of the term and, in view of the manifold factors that may affect processing and application, do not relieve those to whom we supply our products from the responsibility of carrying out their own tests and experiments. Any relevant patents rights and existing legislation and regulations must be observed.

05-2015

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