# QUINOLINE YELLOW
(TENTATIVE)

*Tentative specifications prepared at the 74th JECFA (2011) and published in FAO JECFA Monographs 11 (2011), superseding specifications prepared at the 28th JECFA (1984), published in the Combined Compendium of Food Additive Specifications, FAO JECFA Monographs 1 (2005). A temporary ADI of 0-5 mg/kg bw was established at the 74th JECFA (2011).*

*Information required on the commercially available products for use as food additives:*

- *Range of mono-, di- and trisulfonated components*
- *Chemical name, C.A.S. number and structural formula for the principal component*
- *Maximum wavelengths for UV-visible absorption of mono-, di-, trisulfonated compounds and the absorptivities of the three sulfonate compounds together with the testing solvent*
- *Suitable test method for the separate determination of mono-, di- and trisulfonated compounds*
- *Data from five batches on organic impurities including subsidiary colouring matters and their levels*
- *Suitable test method for the determination of subsidiary colouring matters and other organic impurities using HPLC, including information on the availability of suitable standards*
- *Level of zinc in commercial products and explanation for this impurity*

**SYNONYMS** CI Food Yellow 13; CI (1982) No. 47005; INS No. 104

**DEFINITION** Quinoline yellow is prepared by sulfonating 2-(2-quinolyl)-1,3-indandione. It consists essentially of sodium salts of a mixture of monosulfonates, disulfonates and trisulfonates of the above compounds and subsidiary colouring matters together with sodium chloride and/or sodium sulfate as the principal uncoloured components.

May be converted to the corresponding aluminium lake, in which case only the *General Specifications for Aluminium Lakes of Colouring Matters* apply.

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|---|---|
| Chemical name | Information required |
| C.A.S. number | Information required |
| Chemical formula | $C_{18}H_9NNa_2O_8S_2$ (principal component) |
| Structural formula | Information required |
| Formula weight | 477.38 (Principal component) |

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|---|---|
| Assay | Not less than 70% total colouring matters.<br>Of the total colouring matters present:<br>- not less than 80% of disodium 2-(2-quinolyl)-indan-1,3-dionedisulfonates;<br>- not more than 15% of sodium 2-(2-quinolyl)-indan-1,3-dionemonosulfonates;<br>- not more than 7% of trisodium 2-(2-quinolyl)-indan-1,3-dionetrisulfonate |

## DESCRIPTION

Yellow powder or granules

## FUNCTIONAL USES

Colour

## CHARACTERISTICS

IDENTIFICATION

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|---|---|
| Solubility (Vol. 4) | Soluble in water; sparingly soluble in ethanol |
| Spectrophotometry | Maximum wavelength: Information required<br>Determine the UV-visible absorption spectrum of the sample solution dissolved in a suitable solvent. |

PURITY

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|---|---|
| Loss on drying (Vol. 4) | Not more than 30% at 135º together with chloride and sulfate calculated as sodium salts<br>Determine using Loss on Drying under “GENERAL METHODS”, Chloride as Sodium Chloride and Sulfate as Sodium Sulfate under “SPECIFIC METHODS, Food Colours” in Volume 4. |
| Water-insoluble matter (Vol. 4) | Not more than 0.2% |
| Subsidiary colouring matters | Information required |
| Organic compounds other than colouring matters | Information required |
| Unsulfonated primary aromatic amines (Vol. 4) | Not more than 0.01% calculated as aniline<br>(See Volume 4 under “SPECIFIC METHODS, Food Colours”) |
| Ether-extractable matter (Vol. 4) | Not more than 0.2%<br>(See Volume 4 under “SPECIFIC METHODS, Food Colours, Method II”)<br>Use 2 g of sample for the test. |
| Lead (Vol. 4) | Not more than 2 mg/kg<br>Determine using an AAS/ICP-AES technique appropriate to the specified level. The selection of sample size and method of sample |

preparation may be based on the principles of the method described in Volume 4 (under “General Methods, Metallic Impurities”).

Zinc (Vol. 4) — Information required

## TESTS

PURITY TESTS

Subsidiary colouring matters (Vol. 4) — Information required

Organic compounds other than colouring matters — Information required

## METHOD OF ASSAY

Determine using *Colouring Matters Content by Spectrophotometry* in Volume 4 (under “Specific Methods, Food Colours).
Determination of the percentages of mono-, di- and trisulfonates in Quinoline Yellow by HPLC: Information required.