

# TARTRAZINE

Prepared at the 28th JECFA (1984), published in FNP 31/1 (1984) and in FNP 52 (1992). Metals and arsenic specifications revised at the 59th JECFA (2002). An ADI of 0-7.5 mg/kg was established at the 8th JECFA (1964)

## SYNONYMS

CI Food Yellow 4, FD&C Yellow No. 5, CI (1975) No. 19140, INS No. 102

## DEFINITION

Consists essentially of trisodium 5-hydroxy-1-(4-sulfonatophenyl)-4-(4-sulfonatophenylazo)-H-pyrazole-3-carboxylate and subsidiary colouring matters together with sodium chloride and/or sodium sulfate as the principal uncoloured components.

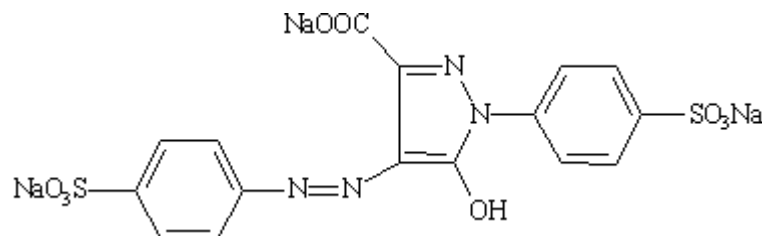
May be converted to the corresponding aluminium lake in which case only the *General Specifications for Aluminium Lakes of Colouring Matters* apply.

Chemical names Trisodium 5-hydroxy-1-(4-sulfonatophenyl)-4-(4-sulfonato-phenylazo)-H-pyrazole-3-carboxylate

C.A.S. number 1934-21-0

Chemical formula  $C_{16}H_9N_4Na_3O_9S_2$

Structural formula



Formula weight 534.37

Assay Not less than 85% total colouring matters

## DESCRIPTION

Light orange powder or granules

## FUNCTIONAL USES

Colour

## CHARACTERISTICS

### IDENTIFICATION

Solubility (Vol. 4) Soluble in water; sparingly soluble in ethanol

Identification of colouring matters (Vol. 4) Passes test

### PURITY

Loss on drying at 135° (Vol. 4) Not more than 15% together with chloride and sulfate calculated as sodium salts

Water insoluble matter (Vol. 4) Not more than 0.2%

Lead (Vol. 4) Not more than 2 mg/kg  
Determine using an atomic absorption 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, "Instrumental Methods."

Subsidiary colouring matters (Vol. 4) Not more than 1%  
Use the following conditions:  
Developing solvent: No. 4  
Height of ascent of solvent front: approximately 12 cm

Organic compounds other than colouring matters (Vol. 4) Not more than 0.5% sum of 4-Hydrazinobenzenesulfonic acid, 4-Aminobenzenesulfonic acid, 5-Oxo-1-(4-sulfophenyl)-2-pyrazoline-3-carboxylic acid, 4,4'-Diazoaminodi (benzenesulfonic acid), Tetrahydroxysuccinic acid

Use HPLC under the following conditions: HPLC elution gradient: 2 to 100% at 2% per min (exponential)

Unulfonated primary aromatic amines (Vol. 4) Not more than 0.01% calculated as aniline

Ether extractable matter (Vol. 4) Not more than 0.2%

## **METHOD OF ASSAY**

Proceed as directed under *Total Content by Titration with Titanous Chloride* (see Volume 4), using the following:

Weight of sample: 0.6-0.7 g  
Buffer: 15 g sodium hydrogen tartrate  
Weight (D) of colouring matters equivalent to 1.00 ml of 0.1 N  $\text{TiCl}_3$ : 13.56 mg