

BROWN HT

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 0-1.5 mg/kg bw was established at the 28th JECFA (1984)

SYNONYMS

CI Food Brown 3, Chocolate brown HT, CI (1975) No. 20285, INS No. 155

DEFINITION

Consists essentially of disodium 4,4'-(2,4-dihydroxy-5-hydroxymethyl-1,3-phenylene-bisazo) di-1-naphthalene-sulfonate 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

Disodium 4,4'-(2,4-dihydroxy-5-hydroxymethyl-1,3-phenylene-bisazo) di-1-naphthalenesulfonate

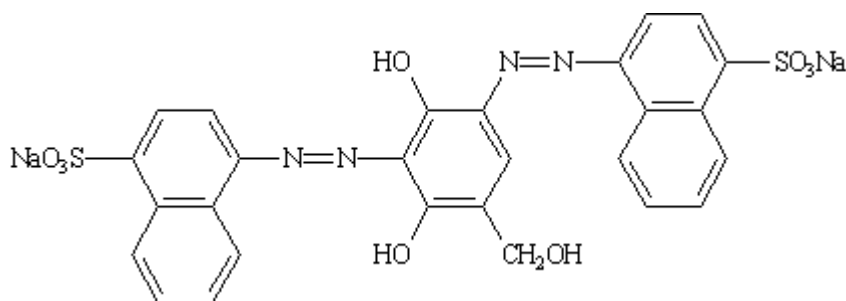
C.A.S. number

4553-89-3

Chemical formula

$C_{27}H_{18}N_4Na_2O_9S_2$

Structural formula



Formula weight

652.57

Assay

Not less than 70% total colouring matter

DESCRIPTION

Brown powder or granules

FUNCTIONAL USES

Colour

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4)

Soluble in water; insoluble in ethanol

Identification of colouring matters (Vol. 4)

Passes test

PURITY

Loss on drying at 135°

Not more than 30% together with chloride and sulfate calculated as sodium

(Vol. 4)	salts
<u>Water insoluble matter</u> (Vol. 4)	Not more than 0.2%
<u>Lead</u> (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."
<u>Subsidiary colouring matters</u> (Vol. 4)	Not more than 10% Use the following conditions: Prepare the standard in the following manner: Dilute 1.0 ml of the 1% dye solution to 100 ml with water and mix well. Transfer 0.10 ml of this solution to a test tube; add 5.0 ml of water: acetone (1:1 by vol.) and then 14.9 ml of 0.05 N sodium hydrogen carbonate solution and shake the tube to ensure mixing. Determine the net absorbance (A_s) of the standard. Developing solvent: No.6 Develop chromatogram for approximately 14 h
<u>Organic compounds other than colouring matters</u>	Not more than 0.7% of 4-aminonaphthalene-1-sulfonic acid See description under TESTS Use <i>liquid chromatography</i> (see Volume 4) under the following conditions: HPLC elution gradient: 1 to 100% at 2.0% per min (exponential)
<u>Un sulfonated primary aromatic amines</u> (Vol. 4)	Not more than 0.01% calculated as aniline
<u>Ether extractable matter</u> (Vol. 4)	Not more than 0.2%

METHOD OF ASSAY Proceed as directed under *Total Content by Spectrophotometry* (see Volume 4), using the following conditions:
Solvent: pH 7 phosphate buffer
Dilution of solution A: 10 ml to 250 ml
Absorptivity (a): 40.3
Approximate wavelength of maximum absorption: 460 nm