

GREEN S

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). No ADI was allocated at the 18th JECFA (1974).

SYNONYMS

CI Food Green 4, Food Green S, CI (1975) No. 44090, INS No. 142

DEFINITION

Consists essentially of sodium N-[4-[[4-(dimethylamino)phenyl](2-hydroxy-3,6-disulfo-1-naphthalenyl)-methylene]-2,5-cyclohexadien-1-ylidene]-N-methylmethanaminium and subsidiary colouring matters together with sodium chloride and/or sodium sulfate as the principal uncoloured compounds.

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

Chemical names

Sodium N-[4-[[4-(dimethylamino)phenyl](2-hydroxy-3,6-disulfo-1-naphthalenyl)-methylene]-2,5-cyclohexadien-1-ylidene]-N-methylmethanaminium;
Sodium 5-[4-dimethylamino-1-(4-dimethyliminocyclohexa-2,5-dienylidene) benzyl]-6-hydroxy-7-sulfonato-naphthalene-2-sulfonate (alternative chemical name)

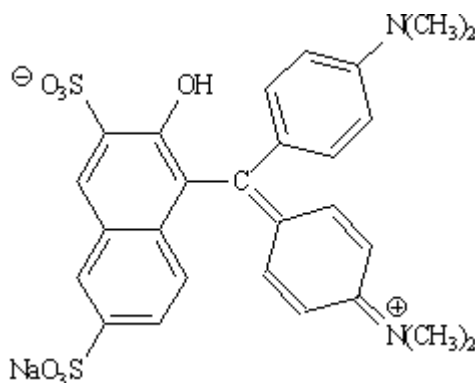
C.A.S. number

860-22-0

Chemical formula

$C_{27}H_{25}N_2NaO_7S_2$

Structural formula



Formula weight

576.63

Assay

Not less than 80% total colouring matter

DESCRIPTION

Dark green powder or granules

FUNCTIONAL USES

Colour

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4)

Soluble in water; slightly soluble in ethanol

<u>Identification of colouring matters</u> (Vol. 4)	Passes test
PURITY	
<u>Loss on drying at 135°</u> (Vol. 4)	Not more than 20% together with chloride and sulfate calculated as sodium 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>Chromium</u> (Vol. 4)	Not more than 50 mg/kg
<u>Subsidiary colouring matters</u> (Vol. 4)	Not more than 1% Use the following conditions: Developing solvent: No. 2 Height of ascent of solvent front: approximately 17 cm
<u>Organic compounds other than colouring matters</u> (Vol. 4)	Not more than 0.1% of 4,4'-Bis (dimethylamino) benzhydryl alcohol Not more than 0.1% of 4,4'-Bis (dimethylamino) benzophenone Not more than 0.2% of 3-Hydroxynaphthalene-2,7-disulfonic acid Use <i>liquid chromatography</i> under the following conditions: HPLC elution gradient: 2 to 100% at 2% per min (linear)
<u>Unulfonated primary aromatic amines</u> (Vol. 4)	Not more than 0.01% calculated as aniline
<u>Leuco base</u> (Vol. 4)	Not more than 5.0% Weigh accurately 110±5 mg of sample and proceed as directed under <i>Leuco Base in Sulfonated Triarylmethane Colours</i> Absorptivity: (a) = 0.1725 mg L ⁻¹ cm ⁻¹ at approximately 634 nm Ratio = 0.9600
<u>Ether extractable matter</u> (Vol. 4)	Not more than 0.2%
METHOD OF ASSAY	Proceed as directed under <i>Total Content by Titration with Titanous Chloride</i> (see Volume 4), using the following: Weight of sample: 1.4-1.5 g; Buffer: 15 g sodium hydrogen tartrate Weight (D) of colouring matters equivalent to 1.00 ml 0.1 N TiCl ₃ : 28.83 mg