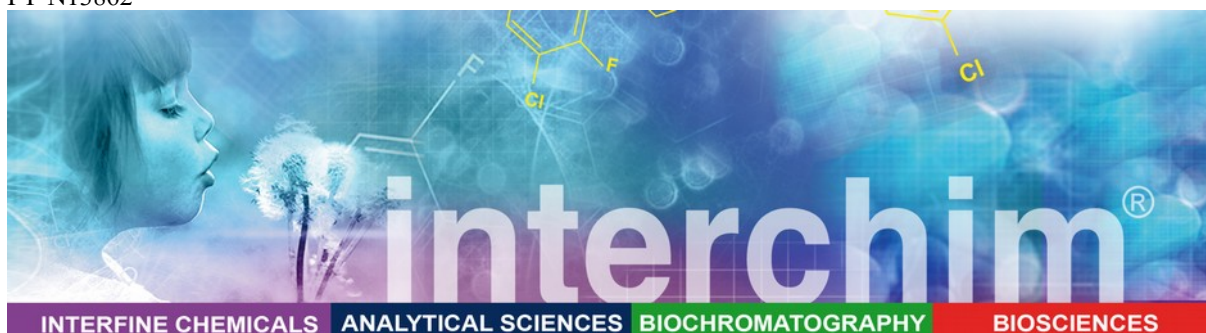


FT-N13862



Lysochrome dyes Sudan dyes, Oil red

Fat soluble dyes used for biochemical staining of triglycerides, fatty acids, and lipoproteins

Product Description

Name :
Sudan IV

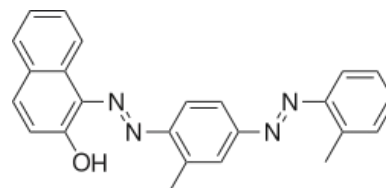
Other names: Sudan R, C.I. Solvent Red 24, C.I. 26105, Lipid Crimson, Oil Red, Oil Red BB, Fat Red B, Oil Red IV, Scarlet Red, Scarlet Red N.F, Scarlet Red Scharlach, Scarlet R

Catalog Number :

N13862, 100g

Structure :

CAS: [85-83-6]

Molecular Weight :
MW: 380.45
 $\lambda_{\text{abs}} = 513\text{-}529 \text{ nm (red)}$; Sol(EtOH): 0.09%


S:22/23/24/25

Name :
Sudan III

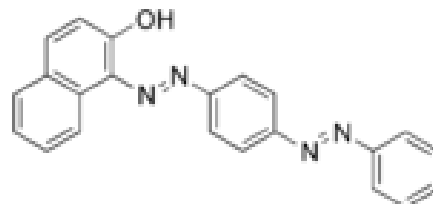
Other names: Rouge Sudan ; rouge Ceresin ; CI 26100; CI Solvent Red 23

Catalog Number :

08002A, 25g

Structure :

CAS:[85-86-9]

Molecular Weight :
MW: 352.40
 $\lambda_{\text{abs}} = 503\text{-}510 \text{ nm (red)}$; Sol(EtOH): 0.15%


S:24/25

Name :
Sudan Black B

Other names: Sudan Black; Fat Black HB; Solvent Black 3; C.I. 26150

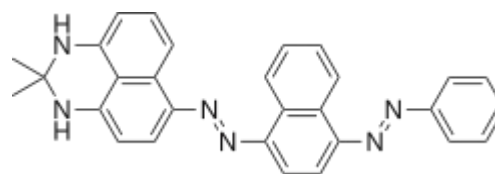
Catalog Number :

279042, 50g

Structure :

 AR7910, 100tests **stain for lipids granules**

CAS: [4197-25-5]

Molecular Weight :
MW: 456.54
 $\lambda_{\text{abs}} = 596\text{-}605 \text{ nm (blue-black)}$


S:22/23/24/25

Name :
Oil Red O

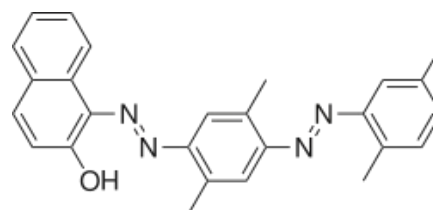
Other names: Solvent Red 27, Sudan Red 5B, C.I. 26125

Catalog Number :

N13002, 100g

Structure :

CAS: [1320-06-5]

Molecular Weight :
MW: 408.51
 $\lambda_{\text{abs}} = 518(359) \text{ nm (red)}$; Sol(EtOH): moderate; Sol(water): Insoluble


S:22/23/24/25

Storage:

Room temperature (z)

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 S.A. a conseil de surveillance 1.548.000 euro - RCS Montluçon 917 050 171 - APE 4669B

Technical information & Directions for use

A **lysochrome** is a fat soluble dye that have high affinity to fats, therefore are used for biochemical staining of triglycerides, fatty acids, and lipoproteins. They also may be useful for staining lipoproteins, and other lipids. Some examples are Sudan IV, Oil Red O and Amido Black.

Staining is an important biochemical technique, offering the ability to visually qualify the presence of the fatty compound of interest without isolating it. Lysochromes such as Sudan IV bind to lipids but does not stick to any other substrate, hence will inform of the presence of lipids and even about their localization (colored regions), type (qualification) and abundance (quantification).

Sudan staining uses Sudan lysochromes dyes (Sudan II, Sudan III, Sudan IV, Oil Red O, and Sudan Black B) to stain sudanophilic substances, usually lipids.

Alcoholic solutions of Sudan dyes are usually used, however pyridine solutions can be used in some situations as well. The staining has to be performed on fresh samples, as alcohol fixation removes the lipids.

Sudan IV is a diazo dye used for the staining of lipids, triglycerides and lipoproteins on frozen paraffin sections. It appears as reddish brown crystals with melting point 199 °C and maximum absorption at 520(357) nm.

Sudan IV can be made up in propylene glycol^[1], or alternatively saturated in isopropyl alcohol, 95% ethanol, or 0.05% by weight in acetone:ethanol:water (50:35:15). Moderately apolar solvent solubilize the dye allowing it to partition into the highly apolar fat without the solvent solubilizing the fat to be stained.

In its purified form it is called Biebrich scarlet R, which should not be confused with the water-soluble Biebrich scarlet.

Other uses: It is used in industry to color nonpolar substances like oils, fats, waxes, greases, various hydrocarbon products, and acrylic emulsions.

Sudan III is similarly to Sudan IV. Applications include staining lipidic inclusions or fat globules in histological section, and the determination the level of fecal fat to diagnose steatorrhea. It is less popular than oil red O as it has a more orange shade.

Guidelines for fecal fat staining: A small sample is dissolved in water or saline, then glacial acetic acid is added to hydrolyze the insoluble salts of fatty acids, then stained by adding a few drops of alcoholic solution of Sudan III. The sample, spread on a microscopic slide, is heated twice to boil. Normally a stool sample should show only a few drops of red-orange stained fat under the microscope. The method is only semiquantitative, however due to its simplicity it is used for screening.

Oil Red O is a diazo dye used for staining of neutral triglycerides and lipids on frozen sections and some lipoproteins on paraffin sections. It has maximum absorption at 518(359) nm. Oil Red O provides much deeper red color than Sudan III and Sudan IV hence replace them for more visible image

Other uses: Oil Red O is in used to make fat more visible in various cuts in pathology, to stain fingerprints ('Oil Red O method' on porous paper, cardboard, etc.), in some pyrotechnic compositions of red colored smokes, and in plastic industry as a dye for plastics, eg. polystyrene resins.

References:

Biotechnic & Histochemistry 1986, Vol. 61, No. 3, Pages 187-190 ; Note from the Biological Stain Commission Laboratory: Oil Red O: Comparison of Staining Quality and Chemical Components as Determined by thin Layer Chromatography

Biotechnic & Histochemistry 1959, Vol. 34, No. 4, Pages 219-221; Polyoxyethylene Sorbitan Monopalmitate (Tween 40) as a Vehicle for oil Red O Fat Stain [Abstract](#)

Sudan Black B is a diazo dye used for staining of neutral triglycerides and lipids on frozen sections and some lipoproteins on paraffin sections. It has the appearance of a dark brown to black powder with maximum absorption at 596-605 nm and melting point 120-124 °C. It stains blue-black.

Sudan Black B can be used to stain some other materials than the other Sudan dyes, as it is not so specific to lipids. In differentiating haematological disorders Sudan black will stain myeloblasts but not lymphoblasts.

Other uses: fingerprint enhancement. detecting fats that are contaminated with oil and grease.

References:

Conn's Biological Stains, A Handbook of Dyes, Stains and Fluorochromes for Use in Biology and Medicine Book ¹ [Inquire](#)

Edward Gurr, (1971), Synthetic dyes in biology, medicine and chemistry Academic Press, London, England

Protocols can be found in the literature

FT-N13862

Legals - Safety

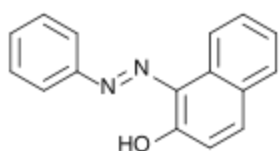
Sudan I, Sudan III, and Sudan IV have been classified as category 3 carcinogens by the International Agency for Research on Cancer.

Related / associated products and documents

See [BioSciences Innovations catalogue](#) and [e-search tool](#).

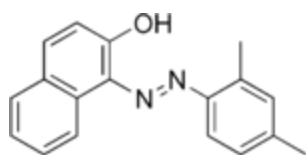
- Amyloid stains (Congo red #N12511, FSB #CG2370,...)
- Nucleic acid stains (BET, PI,...)
- [FluoProbes dyes](#)

Other staining dyes on inquire



Sudan I

(Sudan jaune ; 1-phenylazo-2-naphthol ; CI 12055 ; CI Solvent Yellow 14);
CAS:[842-07-9]; MW: 248.3g/mol (Xn);



Sudan II

(Sudan Orange ; CI 12140 ; CI Solvent Orange 7),
CAS:[3118-97-6]; MW: 276.3g/mol (Xn)

Oil Red 4B #XD149

Staining dyes	CAS	reference
Acid Red 26	3761-53-3	C10028800
Acid Yellow 7	2391-30-2	C10029000
Basic Red 9	569-61-9	C10425000
Basic Violet 3	548-62-9	C10427500
Curcumin (E100)	458-37-7	E11780000
Direct Red 28	573-58-0	C12965400
Disperse Blue 1	2475-45-8	C12972010
Disperse Blue 106	12223-01-7	C12972030
Disperse Blue 124	61951-51-7	
Disperse Blue 3	2475-46-9	C12972013
Disperse Brown 1	23355-64-8	C12972070
Disperse Orange 13	6253-10-7	C12972113
Disperse Yellow 1	119-15-3	C12972308
Disperse Yellow 49	54824-37-2	C12972349
Leucocrystal Violet	603-48-5	C14629400
Leucomalachite green	129-73-7	C14629500
Leucomalachite green D6	118685-33-9	C14629510
Navy blue 018112	633-96-5	C15492000
Orange II sodium salt	6410-10-2	C15735000

Staining dyes	CAS	reference
Para Red	12225-25-1	C15875000
Reactive Black 5	12225-25-1	C16809000
Reactive Blue 19	12225-88-6	C16809010
Reactive Orange 16	12226-88-6	C16809050
Reactive Violet 5	12226-38-9	C16809100
Riboflavin (Vitamine B2)	83-88-5	C16813600
Sudan 1	842-07-9	C16813600
Sudan 1 D5 (Phenyl D5)	752211-63-5	C16986105
Sudan 2	3118-97-6	C16986102
Sudan 3	85-86-9	C16986103
Sudan 4	85-83-6	C16986104
Sudan 4 D6		C16986108
Sudan Black B	4197-25-5	C16986110
Sudan Blue 2	17354-14-2	C16986113
Sudan Orange g	2051-85-6	C16986115
Sudan Red 7B	6368-72-5	C16986120
Sudan Red G	1229-55-6	C16986127
Sudan Yellow	60-11-7	C16986150
Toluidine Red	2425-85-6	C175970000

Sudan is a trademark from BASF.

Ordering information

[Catalog size quantities and prices may be found at www.interchim.com/](http://www.interchim.com/)

Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : FluoProbes® / Interchim; Hotline : +33(0)4 70 03 73 06

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