Patented Feb. 9, 1937

2,070,104

UNITED STATES PATENT OFFICE

2,070,104

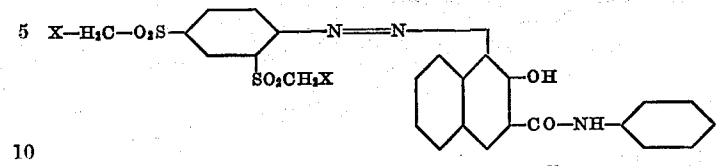
AZODYESTUFFS INSOLUBLE IN WATER

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No Drawing. Application May 15, 1934, Serial No. 725,821. In Germany May 23, 1933

8 Claims. (Cl. 260—95)

The present invention relates to new azodyestuffs insoluble in water more particularly to such corresponding to the general formula:



(wherein one of the X's means hydrogen or alkyl or phenyl, the other X alkyl or phenyl and the benzene nucleus attached to the CONH-group may contain as substituents halogen, alkyl or alkoxy groups).

The new products may be obtained by diazotizing an arylamine containing two sulfone groups of the aforesaid kind and combining the diazo-compound, in substance or on a substratum especially on the fiber, with an arylamide of 2-hydroxy-3-naphthoic acid.

They are distinguished by clear fast yellow to golden-orange shades being as yellowish as hitherto not obtainable by means of dyestuffs of this series.

In order to further illustrate our invention the following examples and table are given; but we wish it however to be understood that our invention is not limited to the particular products nor reacting conditions mentioned therein.

Example 1

40 grams of boiled cotton yarn are impregnated in the usual manner in the following impregnating bath (*a*) and then developed in the following dyeing bath (*b*):—

(*a*) *Impregnating bath*

2 grams of 1-(2'-hydroxy-3'naphthoylamino)-2-methyl-4-chloro-benzene,
4 cc. of Turkey red oil of 50%,
6 cc. of caustic soda lye of 34° Bé.,
2 cc. of a solution of formaldehyde of 30%,
500 cc. of boiling water, made up with water to 1 liter.

(*b*) *Dyeing bath*

3.3 grams of 1-amino-2-benzylsulfone-4-methylsulfone-benzene are dissolved at room temperature in 10 cc. of concentrated sulfuric acid and at 0° C. 1 gram of sodium nitrite is added to the solution. After shortly standing at 5–10° C. the diazo-solution is diluted with ice-water to about 800 cc. and the sulfuric acid is neutralized by means of 40 grams of sodium acetate.

Then the dye goods are rinsed, soaped in the hot, rinsed again and dried. In this manner a clear golden-orange dyeing of excellent fastness qualities is obtained.

Example 2

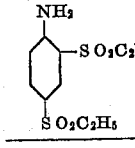
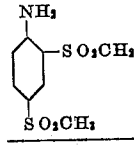
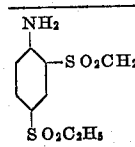
In the same manner as described in the foregoing example 40 grams of cotton yarn are impregnated in an impregnating bath, containing 2 grams of 1-(2',3'-hydroxy-naphthoylamino)-4-chloro-benzene, and then developed in the following dyeing bath:

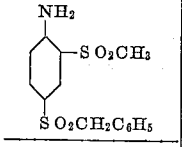
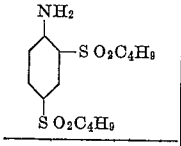
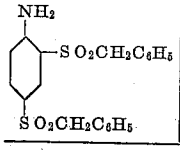
Dyeing bath

4 grams of 1-amino-2,4-di-(propylsulfone)-benzene are dissolved at about 40–50° C. in 40 cc. of concentrated sulfuric acid. The solution is cooled down to 5° C. and 1 gram of sodium nitrite is added. After about ¾ hour's stirring the solution is diluted with ice-water and the difficultly soluble diazo-compound is sucked off. Then it is carefully stirred with about 1200 cc. of water.

A clear golden-orange dyeing is obtained.

The following table shows the shades of some further dyestuffs obtained according to the present process:

Diazocomponent	2'-hydroxy-3'-naphthoyl-compound of—	Shade
	Aminobenzene 4-chloro-2-methyl-1-aminobenzene	Yellowish orange Orange
	4-chloro-2-methyl-1-aminobenzene Aminobenzene	Yellowish orange Orange
	4-chloro-2-methyl-1-aminobenzene 2-methyl-1-aminobenzene 3,4-dichloro-1-aminobenzene	Orange Yellowish orange Orange

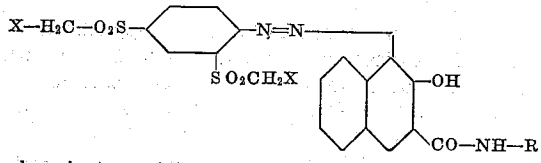
Diazocomponent	2'-hydroxy-3'-naphthoyl-compound of—	Shade
	Aminobenzene	Yellowish orange
	4-chloro-1-aminobenzene 4-chloro-2-methyl-1-aminobenzene	Yellowish orange Do.
	4-chloro-1-aminobenzene	Orange

In the same manner similar clear shades may be obtained according to one of the usual printing methods.

The dyestuffs yield when produced per se and when mixed with the usual substrata clear lakes of similar shades and good fastness qualities.

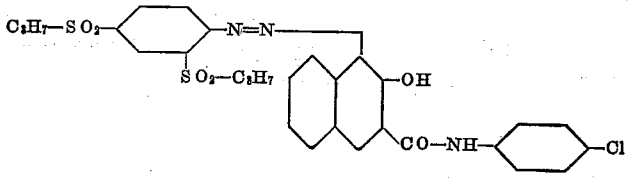
We claim:—

1. The azodyestuffs insoluble in water corresponding to the general formula:



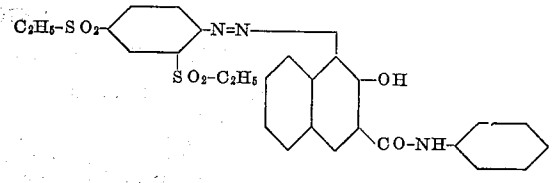
wherein one of the X's is selected from the group consisting of hydrogen, alkyl and phenyl, the other X is selected from the group consisting of alkyl and phenyl, and R means a radical of the benzene series, which dyestuffs are distinguished by clear fast yellow to golden-orange shades being as yellowish as hitherto not obtainable by means of dyestuffs of this series.

2. The azodyestuff of the formula:



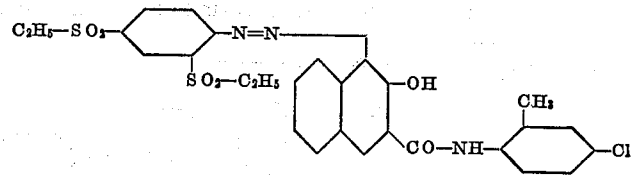
which dyestuff dyes when prepared on the fiber clear golden orange shades.

3. The azodyestuff of the formula:



which dyestuff dyes when prepared on the fiber clear yellowish orange shades.

4. The azodyestuff of the formula:



which dyestuff dyes when prepared on the fiber clear orange shades.

5. Fibers dyed with the dyestuffs claimed in claim 1.

6. Fibers dyed with the dyestuff claimed in claim 2.

7. Fibers dyed with the dyestuff claimed in claim 3.

8. Fibers dyed with the dyestuff claimed in claim 4.

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