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C4P 126 2G5A 2H12 2H15 2H18 2H21 2H3 2H7 2H8 2H9 2HX

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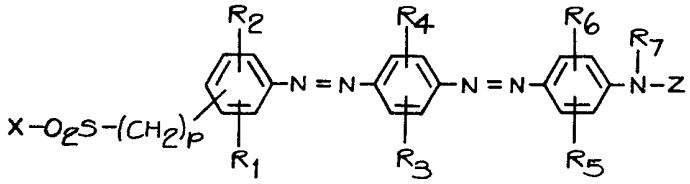
(19)

(54) DISAZO DYESTUFFS

(71) We, BAYER AKTIENGESELLSCHAFT, a body corporate organised under the laws of Federal Republic of Germany of Leverkusen, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention provides disazo dyestuffs which contain only one acid group and which, in the form of the free acids, correspond to the formula



(I)

wherein

p is 0 or 1,
X denotes OH, NH—SO_2—R_8, N(R_9)-alkylene-OSO_3H, N(R_9)-alkylene-SO_3H, N(R_9)-arylene-SO_3H, N(R_9)-arylene-CH_2—SO_3H or N(R_9)-arylene-SO_2—NH—SO_2—R_8,
Z denotes acyl,
R_1 and R_2 denote hydrogen or non-ionic substituents, R_3, R_4 and R_5 denote hydrogen, optionally substituted alkyl, optionally substituted aralkyl, optionally substituted aryl, halogen, optionally substituted alkoxy, optionally substituted aryloxy, optionally substituted aralkoxy or optionally substituted acylamino; or
R_4 and R_3 together denote the remaining members of a fused benzene ring,
R_6 and R_9 denote hydrogen or optionally substituted alkyl,
R_7 denotes hydrogen, optionally substituted alkyl, optionally substituted aryl or optionally substituted aralkyl and
R_8 denotes optionally substituted alkyl, optionally substituted aralkyl, optionally substituted aryl or dialkylamino.

As used herein the term "non-ionic substituents" means a substituent which does not dissociate under the condition of production or use of the dyestuff.

Preferred non-ionic substituents R_1 and R_2 are halogen, cyano, optionally substituted alkyl, optionally substituted alkoxy, optionally substituted aryl, trifluoromethyl, nitro, thiocyano, optionally substituted carbamoyl, optionally substituted sulphamoyl, optionally substituted alkylsulphonyl and optionally substituted arylsulphonyl. Preferred substituents of the carbamoyl and sulphamoyl groups are optionally substituted alkyl, optionally substituted aralkyl and optionally substituted aryl.

Preferred acyl radicals Z and in the acylamino groups R_3, R_4 and R_5 are optionally substituted alkylcarbonyl, optionally substituted arylcarbonyl, optionally substituted alkoxycarbonyl, optionally substituted aryloxycarbonyl, optionally substituted alkylsulphonyl, optionally substituted aralkylsulphonyl and optionally substituted arylsulphonyl.

As used herein the term "acyl" means any organic "acid group", the hydrogen atom of which is easily replaced by for example a metal atom and includes, in addition to those acyl radicals mentioned above, an activated pyrimidinyl, an alkoxycarbonyl and a triazinyl radical.

Preferred alkyl radicals R_1, R_2, R_3, R_4, R_5, R_6, R_7, R_8 and R_9, in the alkylsulphonyl groups and as substituted of the carbamoyl and sulphamoyl radicals are preferably those with 1 to 4 carbon atoms, which may be substituted by halogen, cyano, hydroxyl or C_1—C_4-alkoxy.

Preferred aryl radicals R_1, R_2, R_3, R_4, R_5, R_7 and R_8, in the arylcarbonyl and arylsulphonyl groups and as substituents of the carbamoyl and sulphamoyl groups are phenyl and naphthyl radicals which are optionally substituted by phenyl, C_1—C_4 alkyl, halogen nitro or C_1—C_4 alkoxy.

Preferred aralkyl groups R_3, R_4, R_5, R_7 and R_8 in the aralkylsulphonyl groups and as substituents of the carbamoyl and sulphamoyl radicals are benzyl and 2-phenylethyl, which may be substituted in the phenyl radical by C_1—C_4-alkyl, C_1—C_4 alkoxy, halogen, nitro or cyano.

Preferred alkoxy groups R_1, R_2, R_3, R_4 and R_5 and in the alkoxycarbonyl groups are C_1—C_4 alkoxy groups, which may be optionally substituted by hydroxyl, halogen or cyano.

Preferred aryloxy radicals R_3, R_4 and R_5 and in the aryloxycarbonyl groups are phenyloxy or naphthyloxy radicals which are optionally substituted by phenyl, C_1—C_4 alkyl, halogen, nitro or C_1—C_4 alkoxy.

Preferred aralkyloxy groups R_3, R_4 and R_5 and in the aralkyloxycarbonyl radicals are benzyloxy and 2-phenylethoxy groups, which may be substituted in the phenyl radical by C_1—C_4 alkyl, C_1—C_4 alkoxy, halogen, nitro or cyano.

The alkylenes as a constituent of the radicals X are preferred C_2—C_6 alkylene groups, which may be straight-chain or branched. The arylenes as a constituent of the substituents X are preferably phenylene radicals, which may be further substituted by C_1—C_4 alkyl, C_1—C_4 alkoxy, halogen, cyano or nitro.

The alkyl groups of the dialkylamino radicals R_8 preferably contain 1 to 4 carbon atoms. Preferred halogen atoms are fluorine, chlorine and bromine, especially chlorine and bromine.

Those dyestuffs which contain an acyl group Z which is not fibre-reactive are preferred.

Preferred dyestuffs within the formula I are those in which

p has the above mentioned meaning,

X denotes OH, NH—SO_2—R_8, N(R_9)—(C_2—C_6) alkylene OSO_3H, N(R_9)—(C_2—C_6) alkylene-SO_3H, N(R_9)-phenylene-SO_3H, N(R_9)-phenylene-CH_2—SO_3H or N(R_9)-phenylene-SO_2NO—SO_2—R_8 wherein the phenylene may be substituted by C_1—C_4 alkyl, C_1—C_4 alkoxy, halogen, cyano or nitro.

R_1 and R_2 independently denote hydrogen, chlorine, bromine, methyl, ethyl, methoxy, ethoxy, cyano, trifluoromethyl or phenoxy,

R_3, R_4, R_5 and R_6 independently denote hydrogen, C_1—C_4 alkyl, C_1—C_4 alkoxy, C_1—C_4 alkylcarbonylamino, benzoylamino, C_1—C_4 alkylsulphonylamino, phenylsulphonylamino, C_1—C_4 alkoxycarbonylamino or phenoxycarbonylamino, wherein the phenyl nuclei may be substituted by methyl, ethyl, methoxy, ethoxy, chlorine, bromine or cyano,

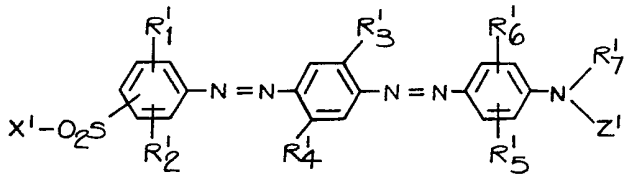
R_7 denotes hydrogen, C_1—C_4 alkyl which is optionally substituted by chlorine, hydroxyl, cyano, benzyl or phenethyl,

R_8 denotes C_1—C4 alkyl or phenyl which is optionally substituted by methyl, chlorine or bromine,

R_9 denotes hydrogen, methyl or ethyl and

Z denotes C_1—C_4 alkylcarbonyl which is optionally substituted by cyano, C_1—C_4 alkoxy, phenoxy or phenyl, benzoyl which is optionally substituted by C_1—C_4 alkyl, chlorine, bromine, nitro, cyano or C_1—C_4 alkoxy, C_1—C_4 alkylsulphonyl, phenylsulphonyl, phenoxycarbonyl or C_1—C_4 alkoxycarbonyl, wherein the phenyl and phenoxy groups may be substituted by chlorine, C_1—C_4 alkyl, C_1—C_4 alkoxy or cyano.

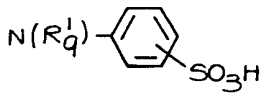
Particularly preferred dyestuffs are those which, in the form of the free acid, correspond to the formula



(II)

wherein

Z′ denotes C_1—C_4 alkylcarbonyl, benzoyl which is optionally substituted by methyl, methoxy or chlorine, phenylacetyl which is optionally substituted by methyl, methoxy or chlorine or phenoxyacetyl which is optionally substituted by methyl, methoxy or chlorine, X′ denotes CH, NH—SO_2—R_8', N(R_9')—(C_2—C_4)-alkylene-OSO_3H, N(R_9')—(C_2—C_4)-alkylene-SO_3H or



R_1' and R_2' independently denote hydrogen, methyl, ethyl, chlorine, bromine or trifluoromethyl

R_3' and R_4' independently denote hydrogen, methyl, ethyl, methoxy, ethoxy, acetylamino, methylsulphonylamino or phenylsulphonylamino,

R_5' denotes hydrogen, methyl, ethyl, methoxy, ethoxy or acetylamino,

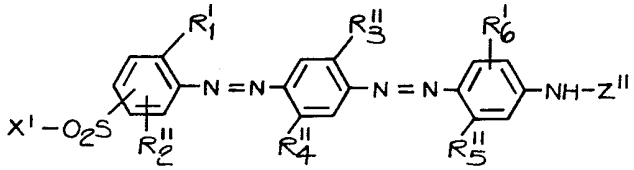
R_6' denotes hydrogen or methyl,

R_7' denotes hydrogen, methyl, ethyl, 2-cyanoethyl, 2-chloroethyl, benzyl or phenethyl,

R_8' denotes C_1—C_4 alkyl or phenyl which is optionally substituted by methyl, chlorine or bromine and

R_9' denotes hydrogen, methyl or ethyl.

Especially preferred compounds are those which, in the form of the freee acid, correspond to the formula



(III)

wherein

X′, R_1' and R_6' have the abovementioned meaning,

R_2'' denotes hydrogen or methyl,

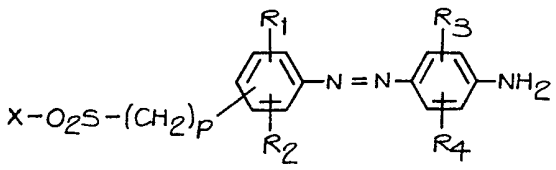
R_3'' denotes hydrogen, methyl or methoxy,

R_4'' denotes hydrogen, methyl, methoxy, ethoxy or acetylamino,

R_5'' denotes hydrogen, methyl or acetylamino and

Z″ denotes acetyl, propionyl, benzoyl which is optionally substituted by methyl, methoxy or chlorine, phenylacetyl which is optionally substituted by methyl methoxy or chlorine, or phenoxyacetyl which is optionally substituted by methyl, methoxy or chlorine.

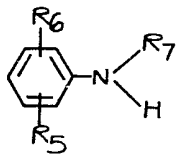
The dyestuffs of the formula (I) are prepared by coupling diazotised aminoazo compounds of the formula



(IV)

wherein

X, R_1, R_2, R_3, R_4 and p have the meaning already given, to amines of the formula



(V)

wherein

R_5, R_6 and R_7 have the meaning already given, and subsequently acylating the product, the radical Z

wherein

Z has the meaning already given, being introduced.

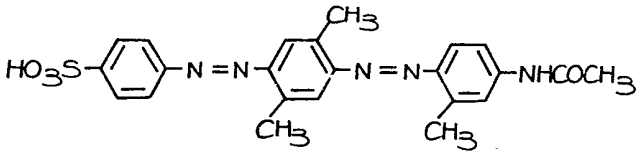
The dyestuffs according to the invention are suitable for dyeing natural and synthetic fibre materials, in particular for dyeing polyamide fibres, in level yellow to orange shades of good colour yield and very good fastness to light and wet processing. The present invention accordingly further provides a process for dyeing a natural or synthetic fibre material comprising treating the material with a dyestuff of the present invention. The dyestuffs of the present invention are already absorbed well onto polyamide fibres in a neutral to weakly acid dyebath. Polyamides are understood here, in particluar, as those consisting of synthetic polyamides, such as ε-polycaprolactam, or condensation products of adipic acid and hexamethylenediamine. The dyestuffs are used here either in the form of the free acid or in the form of their salts, in particular the alkali metal salts, preferably the sodium or potassium salts, as well as the ammonium salts.

Example 1.

13.65 g of p-sulphanilic acid are dissolved in 150 ml of water with 5 g of sodium hydroxide. Thereafter, 5 g of sodium nitrite are added. The resulting solution is added dropwise into a mixture of 500 g of ice and 50 ml of concentrated hydrochloric acid. The mixture is subsequently stirred at 0°C for 2 hours, the excess nitrite is destroyed with amidosulphonic acid, and a solution of 8.8 g of 2,5-dimethylaniline in 100 ml of glacial acetic acid is added dropwise. The pH value is adjusted to about 4 with saturated sodium acetate solution. The dyestuff which has precipitated is filtered off and dried at about 40°C.

4.4 g of the dyestuff described above are stirred in 150 ml of 50% by weight hydrochloric acid and diazotised at room temperature with 1 g of sodium nitrite, dissolved in 10 ml of water. 1.6 g of m-toluidine are dissolved in 50 ml of glacial acetic acid and the solution is added to the diazonium salt solution. The pH value is adjusted to about 4 with saturated sodium acetate solution. The dyestuff which has precipitated is filtered off and dried at about 40°C.

3 g of the disazo dyestuff described above are stirred in 60 ml of acetic anhydride and 20 ml of glacial acetic acid at 120°C for 2 hours. The mixture is allowed to cool to room temperature and the dyestuff which has precipitated of the formula



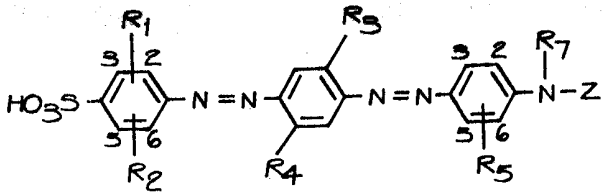
is filtered off, rinsed and dried at 40°C.

Dyeing Example.

0.1 g of the dyestuff prepared according to Example 1 is dissolved hot in 100 ml of water, 5 ml of ammonium acetate solution are added and the mixture is diluted with water to a volume of 500 ml. 10 g of a polyamide fabric are put into the dyebath, the dyebath is brought to the boil in the course of 20 minutes, 4 ml of 10% strength by weight acetic acid are added and the bath is kept at the boiling point for one hour. Thereafter, the fabric is rinsed and dried at 70 to 80°C.

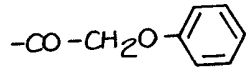
A yellowish-tinged orange dyeing of very good fastness to light is obtained.

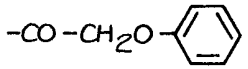
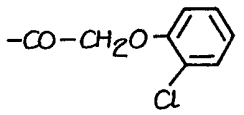
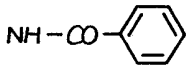
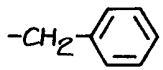
Further valuable dyestuffs with the indicated colour shades according to the following tables are prepared in a manner corresponding to that in Example 1.

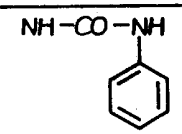
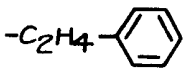


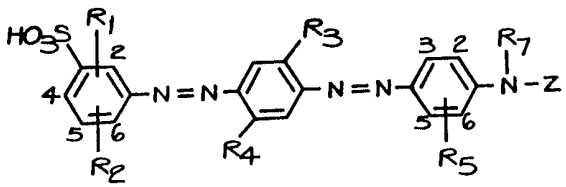
No.	R_1	R_2	R_3	R_4	R_5	R_7	Z	
2	H	H	H	H	5-CH_3	H	–CO–CH_3	reddish-tinged yellow
3	H	H	CH_3	H	5-CH_3	H	–CO–CH_3	,,
4	H	H	CH_3	CH_3	H	H	–CO–CH_3	,,
5	H	H	H	CH_3	H	H	–CO–CH_3	,,
6	H	H	H	CH_3	5-CH_3	H	–CO–CH_3	,,
7	H	H	H	CH_3	6-CH_3	H	–CO–CH_3	,,
8	H	H	–O–CH_3	H	5-CH_3	H	–CO–CH_3	yellowish-tinged orange
9	H	H	–O–CH_3	CH_3	5-CH_3	H	–CO–CH_3	,,
10	H	H	–CH_3	–O–CH_3	5-CH_3	H	–CO–CH_3	,,
11	H	H	H	–O–CH_3	5-CH_3	H	–CO–CH_3	,,
12	H	H	H	–NH–CO–CH_3	5-CH_3	H	–CO–CH_3	,,
13	H	H	–CH_3	–NH–CO–CH_3	5-CH_3	H	–CO–CH_3	,,
14	H	H	–O–CH_3	–O–CH_3	5-CH_3	H	–CO–CH_3	orange
15	H	H	–O–CH_3	–O–CH_3	6-CH_3	H	–CO–CH_3	,,

No.	R_1	R_2	R_3	R_4	R_5	R_7	Z	
16	H	H	$-O-CH_3$	$-O-CH_3$	H	H	$-CO-CH_3$	orange
17	2-CH_3	H	H	CH_3	H	H	$-CO-CH_3$	yellowish-tinged orange
18	2-CH_3	H	$-CH_3$	CH_3	5-CH_3	H	$-CO-CH_3$	,,
19	2-CH_3	H	$-CH_3$	H	H	H	$-CO-CH_3$	,,
20	2-CH_3	H	$-CH_3$	$-CH_3$	H	H	$-CO-CH_3$	,,
21	2-CH_3	H	H	$-O-CH_3$	H	H	$-CO-CH_3$	,,
22	2-CH_3	H	CH_3	$O-CH_3$	H	H	$-CO-CH_3$	,,
23	2-CH_3	H	$-OCH_3$	CH_3	5-CH_3	H	,,	,,
24	2-Cl	H	H	H	H	H	,,	,,
25	2-Cl	H	H	CH_3	5-CH_3	H	,,	,,
26	2-Cl	H	CH_3	CH_3	5-CH_3	H	,,	,,
27	2-Cl	H	H	$O-CH_3$	6-CH_3	H	,,	orange
28	2-Cl	H	H	$NH-CO-CH_3$	H	H	,,	,,
29	2-Cl	H	OCH_3	$NH-CO-CH_3$	5-CH_3	H	,,	reddish-tinged orange
30	2-$O-CH_3$	H	CH_3	CH_3	5-CH_3	H	,,	reddish-tinged yellow

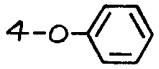
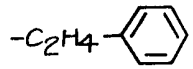
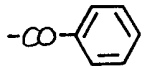
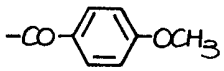
No.	R_1	R_2	R_3	R_4	R_5	R_7	Z	
31	2–O–CH_3	H	OCH_3	CH_3	5-CH_3	H	–CO–CH_3	yellowish-tinged orange
32	2-CH_3	5-CH_3	CH_3	CH_3	5-C_2H_5	H	,,	reddish-tinged yellow
33	2-CF_3	H	CH_3	CH_3	5-C_2H_5	H	,,	reddish-tinged yellow
34	2-CF_3	H	H	O–CH_3	H	H	,,	,,
35	2-CF_3	H	CH_3	CH_3	5–NH–CO–CH_3	H	,,	orange
36	H	H	CH_3	CH_3	,,	H	,,	,,
37	H	H	OCH_3	CH_3	,,	H	,,	,,
38	H	H	H	H	,,	H	,,	,,
39	2-CH_3	H	H	CH_3	,,	H	,,	,,
40	2-Cl	5-Cl	H	CH_3	,,	H	,,	,,
41	H	H	H	CH_3	5-CH_3	H	–CO–C_2H_5	reddish-tinged yellow
42	H	H	CH_3	CH_3	6-CH_3	H	–CO–C_3H_7	,,
43	H	H	OCH_3	CH_3	H	H		,,

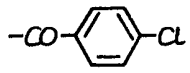
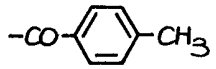
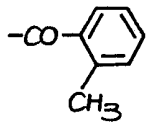
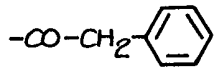
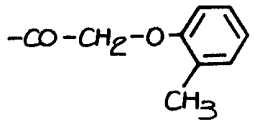
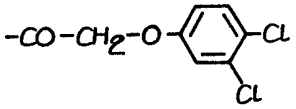
No.	R_1	R_2	R_3	R_4	R_5	R_7	Z	
44	H	H	CH_3	CH_3	5-CH_3	H		reddish-tinged yellow
45	H	H	OCH_3	O–CH_3	5-CH_3	H	,,	orange
46	2-CH_3	H	H	CH_3	5–O–CH_3	H		,,
47	2-CH_3	H	H	CH_3	6–O–CH_3	H	,,	yellowish-tinged orange
48	2-Cl	H	CH_3	CH_3	5–O–CH_3	H	,,	orange
49	2-Cl	H	O–CH_3	CH_3	5–O–CH_3	H	,,	,,
50	H	H	O–CH_3	CH_3	H	H		yellowish-tinged orange
51	H	H	CH_3	CH_3	5-CH_3	H	,,	reddish-tinged orange
52	H	H	H	CH_3	5-CH_3	CH_3	,,	,,
53	H	H	H	C_2H_5	5-CH_3	C_2H_5	,,	,,
54	2-CH_3	H	H		5-CH_3		–CO–CH_3	orange

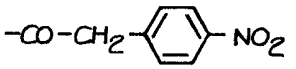
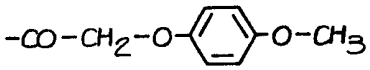
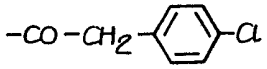
No.	R_1	R_2	R_3	R_4	R_5	R_7	Z	
55	2-OCH_3	H	H		5-CH_3	$-C_2H_4-CN$	$-CO-CH_3$	orange
56	2-Cl	H	H	CH_3	5-CH_3		,,	reddish-tinged yellow
57	H	H	H	H	5-CH_3	C_2H_5	,,	,,
58	H	H	CH_3	CH_3	6-CH_3	C_2H_5	,,	,,
59	H	H	$O-CH_3$	CH_3	5-CH_3	C_2H_5	,,	,,

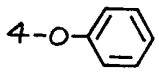
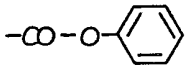
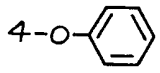


No.	R_1	R_2	R_3	R_4	R_5	R_7	Z	
60	H	H	H	H	H	H	$CO-CH_3$	reddish-tinged yellow
61	H	H	H	CH_3	3-CH_3	H	,,	,,
62	H	H	CH_3	H	3-CH_3	H	,,	,,
63	H	H	CH_3	CH_3	H	H	,,	,,
64	H	H	CH_3	CH_3	3-CH_3	H	,,	,,
65	H	H	CH_3	$O-CH_3$	H	H	,,	,,
66	H	H	CH_3	$O-CH_3$	3-CH_3	H	,,	yellowish-tinged orange
67	H	H	$O-CH_3$	CH_3	3-CH_3	H	,,	,,
68	H	H	$O-CH_3$	CH_3	H	H	,,	,,
69	H	H	$O-CH_3$	$O-CH_3$	H	H	,,	orange
70	H	H	$O-CH_3$	$O-CH_3$	3-CH_3	H	,,	,,
71	4-CH_3	6-CH_3	$O-CH_3$	$O-CH_3$	3-CH_3	C_2H_5	,,	reddish-tinged orange
72	$4-O-CH_3$	H	CH_3	CH_3	3-CH_3	C_2H_5	,,	reddish-tinged yellow

No.	R_1	R_2	R_3	R_4	R_5	R_7	Z	
73		H	H	CH_3	2-CH_3	C_2H_5	CO–CH_3	reddish-tinged yellow
74	,,	H	H	O–CH_3	3-CH_3	C_2H_5	,,	,,
75	4-Cl	H	H	NH–CO–CH_3	3-CH_3	C_2H_5	,,	yellowish-tinged orange
76	6-Cl	H	H	H	3–O–CH_3	C_2H_5	,,	,,
77	6-Cl	H	CH_3	CH_3	H	C_2H_5	,,	reddish-tinged yellow
78	6-Cl	H	CH_3	CH_3	3-CH_3	C_2H_4CN	,,	,,
79	6-Cl	H	H	H	3-CH_3		,,	,,
80	6-Cl	H	OCH_3	CH_3	3-CH_3	C_2H_4Cl	,,	,,
81	H	H	CH_3	H	3-CH_3	H		,,
82	H	H	CH_3	CH_3	3-CH_3	H		,,

No.	R_1	R_2	R_3	R_4	R_5	R_7	Z	
83	H	H	CH_3	CH_3	2-CH_3	H		reddish-tinged yellow
84	H	H	CH_3	H	3-CH_3	C_2H_5		,,
85	H	H	OCH_3	H	3-CH_3	C_2H_5		yellowish-tinged orange
86	H	H	OCH_3	CH_3	3-CH_3	C_2H_5		,,
87	H	H	CH_3	OCH_3	H	C_2H_5		,,
88	H	H	OCH_3	OCH_3	3-CH_3	C_2H_5	,,	orange
89	2-Cl	5-Cl	H	CH_3	3-CH_3	C_2H_5		reddish-tinged yellow

No.	R_1	R_2	R_3	R_4	R_5	R_7	Z	
90	4-Cl	6-Cl	H	OCH_3	3–O–CH_3	C_2H_5		yellowish-tinged orange
91	4-CH_3	6-CH_3	H	OC_2H_5	3-CH_3	H	,,	,,
92	4-CH_3	6-CH_3	CH_3	CH_3	3-CH_3	H		reddish-tinged yellow
93	6-Br	H	CH_3	OCH_3	3-NH–CO–CH_3	H		orange
94	6-C_2H_5	H	CH_3	CH_3	3-CH_3	H	–CO–CH_2–CN	reddish-tinged yellow
95	H	H	CH_3	CH_3	3-CH_3	H	–CO–O–C_2H_5	,,
96	H	H	H	CH_3	3-CH_3	H	,,	,,
97	4-CH_3	6-CH_3	H	OCH_3	3-CH_3	C_2H_5	,,	yellowish-tinged orange

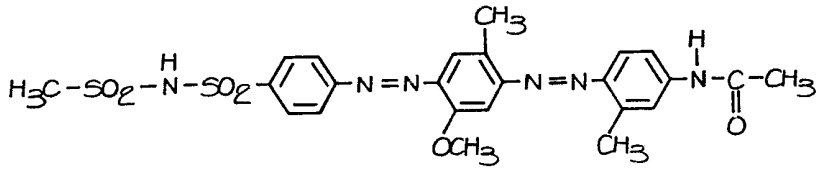
No.	R_1	R_2	R_3	R_4	R_5	R_7	Z	
98		H	H	CH_3	H	H		reddish-tinged yellow
99		H	CH_3	CH_3	3-CH_3	H	,,	,,

Example 100.

18.1 g of 4-(N-methylsulphonyl-amidosulphonyl)-aniline are dissolved in 150 ml of water with 5 g of sodium hydroxide. Thereafter, 5 g of sodium nitrite are added. The resulting solution is added dropwise to a mixture of 500 g of ice and 50 ml of concentrated hydrochloric acid. The mixture is subsequently stirred at 0°C for 2 hours, the excess nitrite is destroyed with amidosulphonic acid, and a solution of 10.3 g of 2-methyl-5-methoxyaniline in 100 ml of glacial acetic acid is added dropwise. The pH value is adjusted to about 4 with saturated sodium acetate solution. The dyestuff which has precipitated is filtered off and dried at about 40°C.

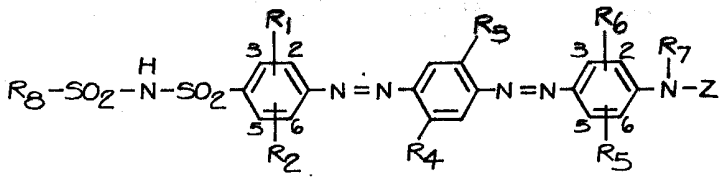
8.7 g of the dyestuff described above are stirred in 150 ml of half-concentrated hydrochloric acid and diazotised at room temperature with 1 g of sodium nitrite, dissolved in 10 ml of water. 1.6 g of m-toluidine are dissolved in 50 ml of glacial acetic acid and the solution is added to the diazonium salt solution. The pH is adjusted to about 4 with saturated sodium acetate solution. The dyestuff which has precipitated is filtered off and dried at 40°C.

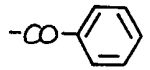
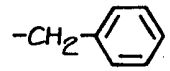
3.6 g of the disazo dyestuff described above are stirred in 60 ml of acetic anhydride and 20 ml of glacial acetic acid at 120°C for 2 hours. The mixture is allowed to cool to room temperature and the dyestuff, which has precipitated, of the formula

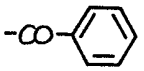


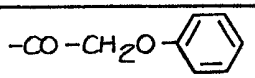
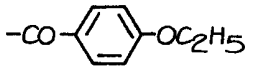
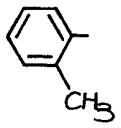
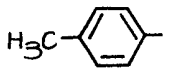
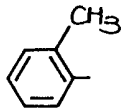
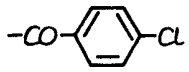
is filtered off.

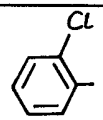
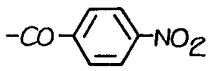
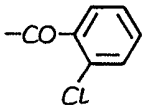
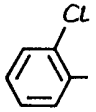
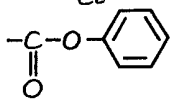
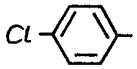
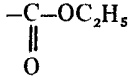
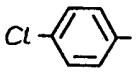
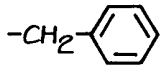
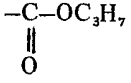
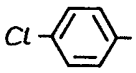
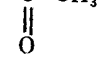
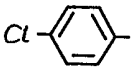
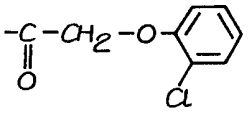
The dyestuff dyes polyamide fibres yellowish-tinged orange.

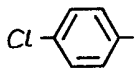
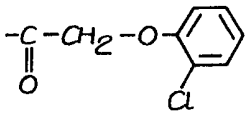
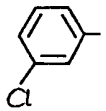
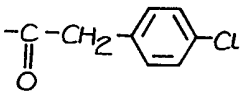
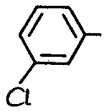
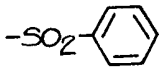
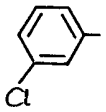


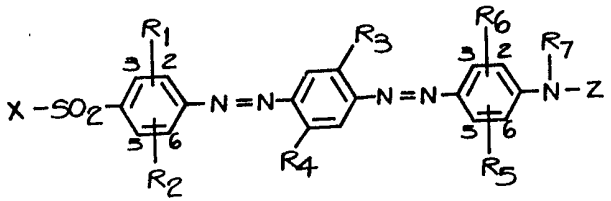
No.	R_8	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
101	CH_3	H	H	CH_3	CH_3	3-CH_3	H	H	–CO–CH_3	reddish-tinged yellow
102	CH_3	H	H	OCH_3	CH_3	3-CH_3	H	H	,,	yellowish-tinged orange
103	C_2H_5	2-CH_3	H	CH_3	CH_3	3-CH_3	H	6-CH_3	,,	reddish-tinged orange
104	C_3H_7	H	H	CH_3	OCH_3	3-CH_3	H	6-CH_3	,,	yellowish-tinged orange
105	C_3H_7	2-OCH_3	H	CH_3	H	3-CH_3	H	5-CH_3	,,	yellowish-tinged orange
106	C_4H_9	H	H	OC_2H_5	H	3-CH_3	CH_3	H	,,	,,
107	C_4H_9	2-Cl	H	CH_3	OCH_3	3-CH_3	C_2H_5	H	,,	,,
108	C_4H_9	2-Cl	5-CH_3	H	H	H	H	H		,,
109	CH_3	2-Cl	H	H	CH_3	3-CH_3	H	6-CH_3	,,	reddish-tinged yellow
110	CH_3	H	H	CH_3	CH_3	3-CH_3		6-CH_3	,,	,,

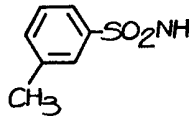
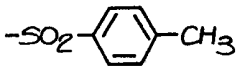
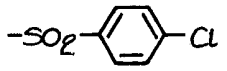
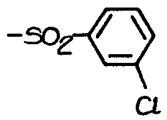
No.	R_8	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
111	CH_3	H	H	H	CH_3	3-CH_3	H	H	$-COCH_3$	reddish-tinged yellow
112	CH_3	2-Cl	5-Cl	H	CH_3	3-CH_3	C_2H_4CN	H	$-COCH_3$	yellowish-tinged orange
113	CH_3	2-CF_3	H	OCH_3	CH_3	3-CH_3		H	,,	,,
114		H	H	H	CH_3	3-CH_3	H	H	,,	reddish-tinged yellow
115	,,	H	H	CH_3	CH_3	3-CH_3	H	H	,,	,,
116	,,	H	H	OCH_3	CH_3	3-CH_3	H	6-CH_3	,,	yellowish-tinged orange
117	,,	H	H	CH_3	OCH_3	3-CH_3	H	H	,,	,,
118	,,	H	H	OCH_3	OCH_3	3-CH_3	C_2H_5	H	$-CO-CH_3$	orange
119	,,	H	H	CH_3	CH_3	3-CH_3	H	H		reddish-tinged yellow

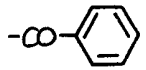
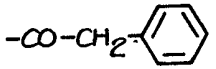
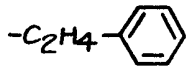
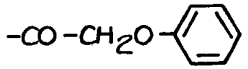
No.	R_8	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
120		2-Cl	H	CH_3	CH_3	3-CH_3	H	H		reddish-tinged yellow
121	,,	2-CH_3	5-CH_3	H	CH_3	3-C_2H_5	C_2H_5	H		,,
122	,,	H	H	CH_3	CH_3	3-CH_3	3-CH_3	H	–CO–CH_3	,,
123	,,	H	H	H	CH_3	3-CH_3	3-CH_3	H	,,	,,
124		H	H	OCH_3	CH_3	H	H	H	,,	yellowish-tinged orange
125		2-CH_3	H	H	CH_3	H	H	H	,,	reddish-tinged yellow
126		2-CH_3	H	H	NH–$COCH_3$	H	H	H	,,	yellowish-tinged orange
127	,,	2-Cl	5-Cl	H	H	3-CH_3	3-CH_3	H	,,	,,
128	,,	2-Cl	H	CH_3	OCH_3	3-CH_3	3-CH_3	H		,,

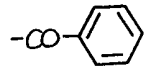
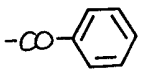
No.	R_8	R_1	R_2	R_3	R_4	R_5	R_7	R_n	Z	
129		H	H	CH_3	OCH_3	3-CH_3	3-CH_3	H		yellowish-tinged orange
130	,,	2-CH_3	H	CH_3	CH_3	3-CH_3	3-CH_3	H		yellowish-tinged orange
131		H	H	H	C_2H_5	3-CH_3	C_2H_5	H		reddish-tinged yellow
132		H	H	CH_3	OC_2H_5	3-CH_3	C_2H_5	6-CH_3		yellowish-tinged orange
133		2-Br	H	CH_3	OC_3H_7	2-CH_3		H		,,
134		2-CF_3	H	OCH_3	CH_3	2-CH_3	H	6-CH_3		,,
135		H	H	OCH_3	CH_3	3-CH_3	H	H		,,

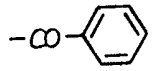
No.	R_8	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
136		2-Cl	H	OCH_3	CH_3	3-OCH_3	H	6-CH_3		orange
137		H	H	CH_3	CH_3	3-CH_3	H	5-CH_3		reddish-tinged yellow
138		2-CH_3	5-CH_3	H	CH_3	3-CH_3	C_2H_5	H		,,
139		H	H	H	OCH_3	3-CH_3	H	H	$-SO_2-C_2H_5$	yellowish-tinged orange

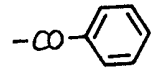


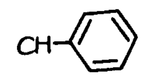
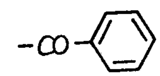
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
140		H	H	CH_3	CH_3	3-CH_3	C_2H_5	H	–CO–CH_3	reddish-tinged yellow
141	,,	H	H	OCH_3	CH_3	3-CH_3	C_2H_5	H		yellowish-tinged orange
142	,,	2-CH_3	H	CH_3	H	H	C_2H_5	H		reddish-tinged yellow
143	,,	H	H	H	H	H	C_2H_5	H		,,
144	,,	2-Cl	H	CH_3	OCH_3	3-CH_3	C_2H_5	H	–SO_2–C_4H_9	,,
145	HO_3S–C_2H_4NH–	H	H	H	H	3-CH_3	H	H	–CO–CH_3	,,
146	,,	H	H	CH_3	CH_3	3-CH_3	H	H	,,	,,
147	,,	H	H	H	OCH_3	3-CH_3	H	H	,,	yellowish-tinged orange
148	,,	H	H	CH_3	OCH_3	3-CH_3	H	H	,,	,,

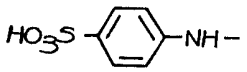
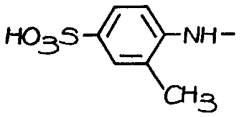
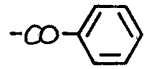
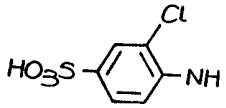
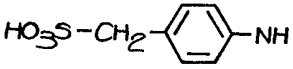
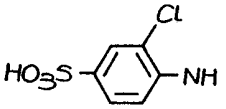
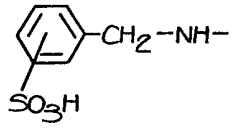
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
149	$HO_3S-C_2H_4NH-$	H	H	OCH_3	OCH_3	3-CH_3	H	H	$-CO-CH_3$	orange
150	,,	H	H	CH_3	H	3-CH_3	H	H	,,	reddish-tinged yellow
151	,,	H	H	CH_3	CH_3	3-CH_3	H	6-CH_3	,,	,,
152	,,	H	H	CH_3	CH_3	3-CH_3	C_2H_5	H	,,	,,
153	,,	H	H	H	CH_3	3-CH_3	C_2H_5	H	,,	,,
154	,,	2-Cl	H	H	CH_3	3-CH_3	C_2H_5	H	,,	,,
155	,,	2-Cl	5-Cl	H	CH_3	3-CH_3	C_2H_5	H	,,	yellowish-tinged orange
156	,,	2-CH_3	H	H	CH_3	H	C_2H_5	H	,,	reddish-tinged yellow
157	,,	2-CH_3	H	OCH_3	CH_3	H	C_2H_5	H		yellowish-tinged orange
158	,,	H	H	OCH_3	CH_3	H	C_2H_4CN	H		,,
159	,,	H	H	OCH_3	CH_3	H		H		,,
160	,,	H	H	CH_3	$NH-COCH_3$	3-CH_3	C_2H_5	H	$-CO-CH_3$	,,

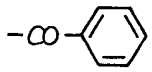
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
161	$HO_3S-C_2H_4NH-$	H	H	CH_3	CH_3	3-CH_3	H	H		reddish-tinged yellow
162	,,	H	H	CH_3	OC_2H_5	H	C_2H_5	H	,,	yellowish-tinged orange
163	,,	H	H	CH_3	OC_2H_5	3-CH_3	H	H	,,	,,
164	,,	H	H	H	OC_2H_5	3-CH_3	H	H	,,	,,
165	,,	H	H	H	OC_2H_5	3-CH_3	C_2H_5	H	,,	,,
166	$HO_3S-C_2H_4N-CH_3$	H	H	CH_3	CH_3	3-CH_3	H	H	,,	reddish-tinged yellow
167	,,	H	H	CH_3	OC_2H_5	3-CH_3	H	H	,,	yellowish-tinged orange
168	,,	H	H	OCH_3	CH_3	3-CH_3	H	H	,,	,,
169	,,	H	H	OCH_3	CH_3	3-CH_3	C_2H_5	H	,,	,,
170	,,	2-Cl	H	CH_3	CH_3	H	C_2H_4Cl	H	$-CO-CH_3$	reddish-tinged yellow
171	,,	H	H	H	CH_3	H	C_2H_5	H	,,	,,
172	,,	H	H	H	CH_3	H	C_2H_5	H		,,

No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
173	$HO_3S-C_2H_4N(CH_3)-$	H	H	H	CH_3	3-CH_3	H	H		reddish-tinged yellow
174	,,	2-CH_3	5-CH_3	H	CH_3	3-CH_3	H	6-CH_3	,,	,,
175	,,	H	H	CH_3	CH_3	H		H	$-CO-CH_3$	,,
176	,,	H	H	C_2H_5	H	3-CH_3	H	H	,,	,,
177	$HO_3S-C_2H_4-N(C_2H_5)-$	H	H	CH_3	H	3-CH_3	C_2H_3	H	,,	,,
178	,,	2-Cl	H	CH_3	CH_3	3-CH_3	H	5-CH_3	,,	,,
179	$HO_3S-C_2H_4-N(C_4H_9)-$	H	H	CH_3	CH_3	3-CH_3	H	H	,,	,,
180	$HO_3S-C_4H_9-NH-$	H	H	CH_3	H	3-CH_3	H	H	,,	,,
181	,,	H	H	CH_3	CH_3	3-CH_3	C_2H_5	H	,,	,,
182	,,	2-Cl	H	$-O-CH_3$	CH_3	3-CH_3	C_2H_5	H	,,	yellowish-tinged orange
183	,,	2-CH_3	H	H	CH_3	3-CH_3	H	H	,,	reddish-tinged yellow
184	$HO_3S-C_4H_9-N(CH_3)-$	H	H	$-O-CH_3$	H	H	C_2H_5	H	,,	yellowish-tinged orange

No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
185	$HO_3S-C_4H_9-N(C_3H_7)-$	2-Cl	5-CH_3	CH_3	CH_3	3-CH_3	H	H		reddish-tinged yellow
186	$HO_3S-CH(CH_3)-CH-N(C_2H_5)-$	H	H	CH_3	CH_3	3-CH_3	H	6-CH_3	,,	,,
187	$HO_3S-O-C_2H_4-NH$	H	H	H	CH_3	3-CH_3	C_2H_5	H	$-CO-CH_3$	,,
188	,,	H	H	CH_3	$-OCH_3$	OCH_3	C_2H_5	H	,,	orange
189	,,	2-Cl	H	CH_3	$-OCH_3$	3-CH_3	H	H	,,	reddish-tinged orange
190	,,	2-Cl	H	CH_3	$-OCH_3$	3-CH_3	C_2H_5	5-CH_3	,,	,,
191	$HO_3S-O-C_2H_4-N(H_3C)-$	2-Cl	6-Cl	CH_3	CH_3	3-CH_3	H	H	$-CO-CH_3$	reddish-tinged yellow
192	$HO_3S-C_4H_5-N(C_2H_5)-$	H	H	H	OCH_3	3-CH_3	C_2H_4CN	H	,,	,,
193	,,	2-CH_3	H	CH_3	OCH_3	3-CH_3	H	H	,,	yellowish-tinged orange
194	$HO_3S-O-CH(CH_3)-CH-NH-$	H	H	CH_3	CH_3	3-CH_3	H	H	,,	reddish-tinged yellow
195	$HO_3S-O-CH(C_2H_5)-CH-NH-$	H	H	H	CH_3	H	C_2H_5	H	,,	,,

No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
196	$HO_3S-O-C-C-CH_3$ H_3C $N-$ CH_3	H	H	H	CH_3	3-CH_3	H	6-CH_3	$-CO-CH_3$	reddish-tinged yellow
197	,,	2-Cl	H	OCH_3	H	H		H	,,	yellowish-tinged orange
198	$HO_3S-C-C-NH-$ H_3C CH_3	H	H	CH_3	CH_3	H	C_2H_5	H	,,	reddish-tinged yellow
199	,,	H	H	OCH_3	H	3-CH_3	H	H		yellowish-tinged orange
200	$HO_3S-C-C-N-$ H_3C CH_3 C_2H_5	H	H	H	OCH_3	3-CH_3	H	6-CH_3	$-CO-CH_3$	,,
201	,,	2-Cl	H	OC_2H_5	CH_3	3-CH_3	H	H	,,	,,
202	$HO_3S-CH-(CH_2)_3-N-$ CH_3 CH_3	2-CH_3	H	H	H	3-CH_3	H	H	,,	reddish-tinged yellow
203	$HO_3S-CH-(CH_2)_2-N-$ H_3C C_2H_5	H	H	CH_3	H	3-CH_3	C_2H_5	H	,,	,,

No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
204		H	H	CH_3	C_2H_5	3-CH_3	H	H	$-CO-CH_3$	reddish-tinged yellow
205	,,	H	H	CH_3	H	3-CH_3	H	H	,,	,,
206	,,	2-Cl	H	CH_3	OCH_3	H	C_2H_5	H	,,	,,
207		H	H	CH_3	CH_3	3-OCH_3	H	H		,,
208	,,	2-OCH_3	H	CH_3	CH_3	3-CH_3	CH_3	6-CH_3	,,	,,
209		H	H	CH_3	H	3-CH_3	H	H	$-CO-C_3H_7$	,,
210		H	H	H	CH_3	3-CH_3	H	H	$-CO-CH_2-O-CH_3$	,,
211		H	H	H	C_2H_5	3-CH_3	H	H	$-CO-CH_3$	,,
212		H	H	CH_3	OCH_3	H	C_2H_5	H	,,	yellowish-tinged orange
213	HO–	H	H	CH_3	CH_3	3-CH_3	H	6-CH_3	,,	reddish-tinged yellow

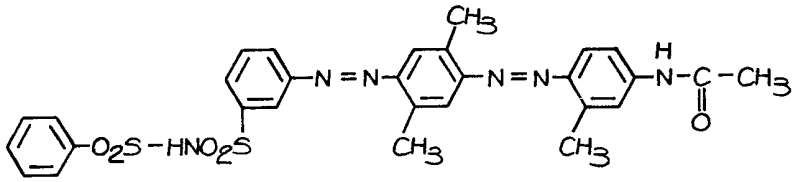
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	/	
214	HO–	H	H	CH_3	CH_3	3-CH_3	C_2H_5	6-CH_3	–CO–CH_3	reddish-tinged yellow
215	HO–	2-Cl	H	OCH_3	CH_3	3-CH_3	C_2H_5	5-CH_3		,,
216	HO–	2-OCH_3	H	CH_3	OCH_3	3-CH_3	C_2H_4-CN	6-CH_3	–CO–CH_3	,,

Example 217.

23.5 g of 3-(N-phenylsulphonylamidosulphonyl)aniline are dissolved in 150 ml of water with 5 g of sodium hydroxide. Thereafter, 5 g of sodium nitrite are added. The resulting solution is added dropwise to a mixture of 500 g of ice and 50 ml of concentrated hydrochloric acid. The mixture is subsequently stirred at 0°C for 2 hours, the excess nitrite is destroyed with amidosulphonic acid, and a solution of 8.8 g of 2,5-dimethylaniline in 100 ml of glacial acetic acid is added dropwise. The pH value is adjusted to about 4 with saturated sodium acetate solution. The dyestuff which has precipitated is filtered off and dried at about 40°C.

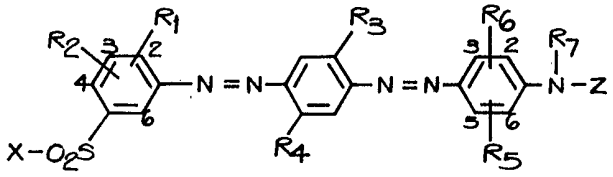
6.58 g of the dyestuff described above are stirred in 150 ml of 50% by weight hydrochloric acid and diazotised at room temperature with 1 g of sodium nitrite, dissolved in 10 ml of water. 1.6 g of m-toluidine are dissolved in 50 ml of glacial acetic acid and the solution is added to the diazonium salt solution. The pH is adjusted to about 4 with saturated sodium acetate solution. The dyestuff which has precipitated is filtered off and dried at 40°C.

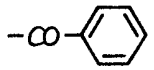
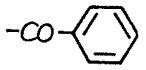
4.1 g of the disazo dyestuff described above are stirred in 60 ml of acetic anhydride and 20 ml of glacial acetic acid at 120°C for 2 hours. The mixture is allowed to cool to room temperature and the dyestuff, which has precipitated, of the formula

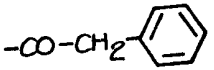
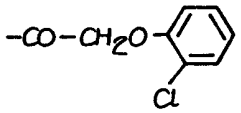
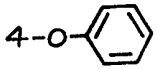


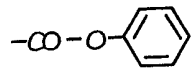
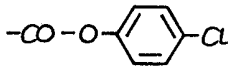
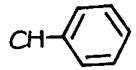
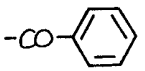
is filtered off.

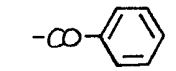
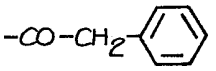
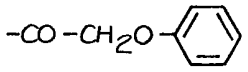
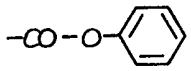
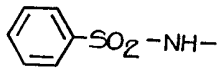
The dyestuff dyes polyamide fibre material orange.

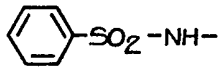
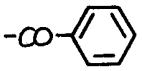


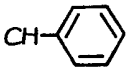
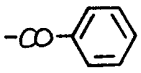
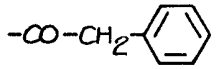
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
218	HO	H	H	H	H	3-CH_3	H	H	–CO–CH_3	reddish-tinged yellow
219	HO	H	H	CH_3	CH_3	3-CH_3	H	H	,,	,,
220	HO	H	H	H	H	H	H	H	,,	,,
221	HO	H	H	H	CH_3	3-CH_3	H	H		,,
222	HO	H	H	CH_3	CH_3	3-CH_3	H	H	,,	,,
223	HO	H	H	OCH_3	CH_3	3-CH_3	H	H	–CO–CH_3	yellowish-tinged orange
224	HO	H	H	CH_3	OCH_3	3-CH_3	H	H	,,	,,
225	HO	H	H	CH_3	OCH_3	3-CH_3	H	H		,,
226	HO	H	H	H	CH_3	3-CH_3	H	H	–CO–CH_3	reddish-tinged yellow

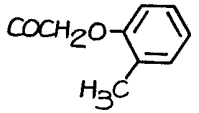
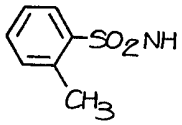
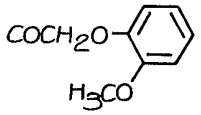
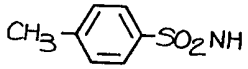
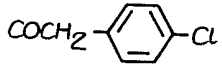
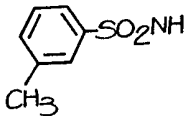
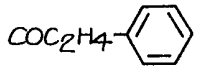
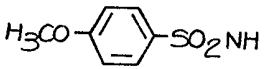
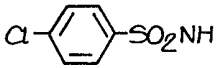
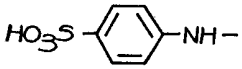
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
227	HO	2-Cl	H	CH_3	CH_3	3-CH_3	C_2H_5	H	–CO–CH_3	reddish-tinged yellow
228	HO	2-OCH_3	H	H	CH_3	3-CH_3	H	6-CH_3		,,
229	HO	2-CH_3	4-CH_3	H	CH_3	H	CH_3	H	,,	,,
230	HO	4-OC_2H_5H	H	CH_3	OCH_3	3-CH_3	H	H		,,
231	HO		H	CH_3	CH_3	3-CH_3	C_3H_4CN	H	–CO–CH_3	,,
232	HO	4-Cl	H	H	–OCH_3	3-O–CH_3	H	H	,,	yellowish-tinged orange
233	HO	4-Cl	H	H	–NH–CO–CH_3	2-CH_3	H	H	,,	,,
234	HO	4-Cl	H	CH_3	CH_3	2-CH_3	H	6-CH_3	,,	reddish-tinged yellow
235	HO	4-Cl	H	H	CH_3	3-O–CH_3	H	6-CH_3	,,	yellowish-tinged orange

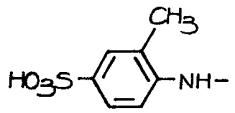
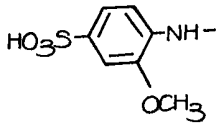
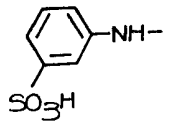
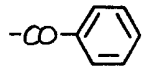
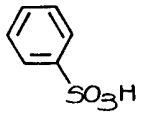
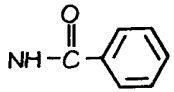
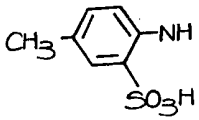
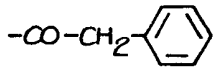
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
236	HO	2-Cl	4-Cl	H	CH_3	3-CH_3	H	H		reddish-tinged yellow
237	HO	2-Cl	H	–NH–CO–CH_3	H	3-CH_3	H	H		yellowish-tinged orange
238	HO	H	H	H	CH_3	3-CH_3		H	–CO–CH_3	reddish-tinged yellow
239	HO	2-CH_3	4-CH_3	H	CH_3	3-CH_3	H	H	,,	,,
240	HO	2-CH_3	4-CH_3	CH_3	CH_3	3-CH_3	H	H	,,	,,
241	HO	2-CH_3	4-CH_3	CH_3	CH_3	H	C_2H_5	H	,,	,,
242	HO	2-CH_3	4-CH_3	CH_3	CH_3	3-CH_3	H	6-CH_3	,,	,,
243	HO	2-CH_3	4-CH_3	CH_3	CH_3	3-CH_3	C_2H_5	H	,,	,,
244	HO	2-CH_3	4-CH_3	OCH_3	CH_3	3-CH_3	H	H	,,	yellowish-tinged orange
245	HO	2-CH_3	4-CH_3	CH_3	OCH_3	3-CH_3	H	H		,,

No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
246	HO	2-CH_3	4-CH_3	CH_3	CH_3	H	C_2H_5	H		yellowish-tinged orange
247	HO	2-CH_3	4-CH_3	CH_3	CH_3	3-O–CH_3	H	H		,,
248	HO	2-CH_3	4-CH_3	H	CH_3	3-CH_3	H	H		reddish-tinged yellow
249	HO	2-CH_3	4-CH_3	H	CH_3	3-CH_3	H	H		,,
250	HO	2-CH_3	H	H	OCH_3	3-CH_3	C_2H_4CN	H	–CO–OC_2H_5	yellowish-tinged orange
251	HO	3-Cl	H	CH_3	CH_3	3-CH_3	H	H	–CO–CH_3	reddish-tinged yellow
252		H	H	H	CH_3	3-CH_3	H	H	,,	,,
253	,,	H	H	CH_3	CH_3	3-CH_3	H	H	,,	,,
254	,,	H	H	OCH_3	CH_3	H	C_2H_5	H	,,	yellowish-tinged orange

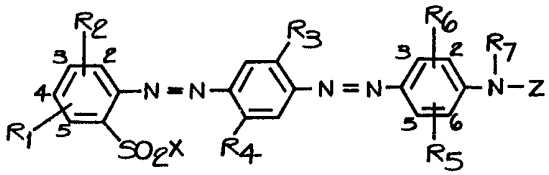
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
255		H	H	CH_3	OCH_3	3-CH_3	H	6-CH_3	$-CO-CH_3$	yellowish-tinged orange
256	,,	H	H	CH_3	OCH_3	3-CH_3	C_2H_5	H	,,	,,
257	,,	H	H	H	OCH_3	H	H	H	,,	,,
258	,,	H	H	H	OCH_3	3-CH_3	H	H	,,	,,
259	,,	2-OCH_3	H	CH_3	CH_3	3-CH_3	H	H	,,	reddish-tinged yellow
260	,,	H	H	CH_3	CH_3	3-CH_3	H	H		,,
261	,,	H	H	OCH_3	CH_3	3-CH_3	H	H	,,	yellowish-tinged orange
262	,,	2-CH_3	H	CH_3	OCH_3	3-CH_3	H	H	,,	,,
263	,,	2-Cl	H	H	OCH_3	H	H	H	,,	,,
264	,,	2-Cl	H	H	OCH_3	3-CH_3	H	H	,,	,,
265	CH_3-SO_2-NH-	H	H	CH_3	H	3-CH_3	H	H	,,	reddish-tinged yellow
266	$C_2H_5-SO_2-NH-$	H	H	CH_3	CH_3	3-CH_3	C_2H_5	H	,,	reddish-tinged yellow

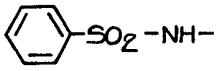
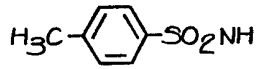
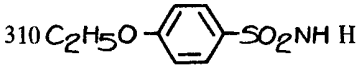
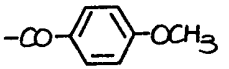
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
267	C_2H_5–SO_2–NH–	H	H	CH_3	CH_3	3-CH_3	H	H	–CO–CH_3	reddish-tinged yellow
268	,,	H	H	OCH_3	CH_3	3-CH_3	H	6-CH_3	,,	yellowish-tinged orange
269	C_4H_9–SO_2–NH–	H	H	CH_3	OCH_3	3-CH_3		H	,,	,,
270	,,	H	H	OC_2H_5	OC_2H_5	3-CH_3	C_2H_5	H	$COCH_3$	orange
271	,,	2-OCH_3	H	CH_3	OC_2H_5	3-C_2H_5	H	H	,,	,,
272	CH_3–SO_2NH	2–CH_3	4-CH_3	CH_3	CH_3	3-CH_3	H	H	,,	yellow
273	,,	2-CH_3	4-CH_3	CH_3	CH_3	H	H	H	,,	,,
274	,,	2-CH_3	4-CH_3	H	CH_3	3-CH_3	C_2H_5	H	,,	,,
275	,,	2-Cl	4-Cl	H	H	3-CH_3	H	6-CH_3		,,
276	HO_3S–C_2H_4NH	H	H	CH_3	CH_3	3-CH_3	H	H	,,	,,
277	,,	H	H	H	CH_3	H	H	H	COC_3H_7	,,
278	,,	2-Cl	H	OCH_3	CH_3	3-OCH_3	H	H		orange
279	HO_3S–O–C_2H_4NH	H	H	CH_3	CH_3	3-CH_3	H	H	$COCH_3$	yellow

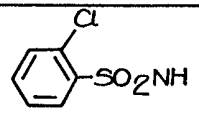
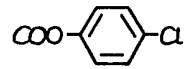
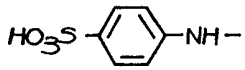
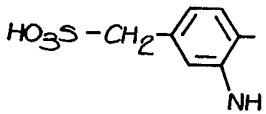
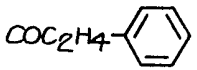
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
280	$HO_3S-O-C_2H_4NH$	H	H	H	$NHCOCH_3$	3-CH_3	H	H	$COCH_3$	orange
281	,,	2-Br	H	CH_3	CH_3	3-CH_3	CH_3	H		yellow
282		H	H	H	CH_3	3-CH_3	H	H		,,
283		H	H	CH_3	CH_3	3-CH_3	H	H		,,
284		2-Cl	H	H	C_2H_5	3-CH_3	CH_3	H		,,
285		H	H	OCH_3	CH_3	3-CH_3	C_2H_5	H	$COCH_3$	orange
286		H	H	CH_3	OC_2H_5	H	H	H	,,	,,
287		H	H	H	CH_3	3-CH_3	H	H	$-CO-CH_3$	reddish-tinged yellow
288	,,	H	H	CH_3	CH_3	3-CH_3	H	H	,,	,,

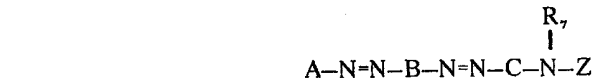
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
289		H	H	CH_3	$-OCH_3$	2-CH_3	H	6-CH_3	$-CO-CH_3$	reddish-tinged yellow
290		H	H	CH_3	CH_3	3-CH_3	CH_3	H	,,	,,
291		H	H	H	C_2H_5	3-CH_3	H	H		,,
292		H	H	H		3-CH_3	H	H	$-CO-CH_3$	yellowish-tinged orange
293	,,	2-Cl	H	CH_3	CH_3	3-CH_3	C_2H_4CN	H	,,	reddish-tinged yellow
294		4-Cl	H	$-OC_2H_5$	CH_3	3-OCH_3	H	H		orange
295	$HO_3S-C_4H_9-N-$ 	H	H	CH_3	CH_3	3-CH_3	C_2H_5	H	$-CO-CH_3$	reddish-tinged yellow

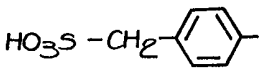
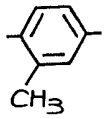
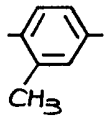
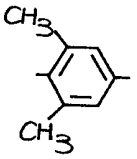
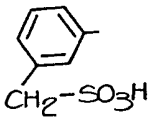
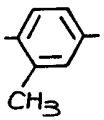
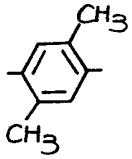
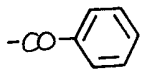
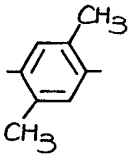
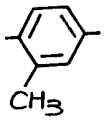
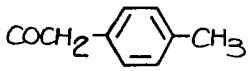
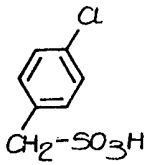
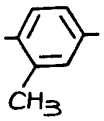
No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
296	$HO_3S-C_4H_9-N(C_2H_5)-$	2-CH_3	4-CH_3	H	C_2H_5	3-CH_3	H	6-CH_3	$-CO-CH_3$	reddish-tinged yellow
297	$HO_3S-C_3G_6-N(CH_3)-$	4-O-Ph	H	CH_3	CH_3	3-CH_3	H	H	,,	,,
298	OH	H	H	H	H	H	H	H	$CO-CH_3$	,,
299	OH	H	H	H	CH_3	3-CH_3	H	H	,,	,,
300	OH	H	H	CH_3	CH_3	3-CH_3	H	H	,,	,,
301	HO	H	H	OCH_3	CH_3	3-CH_3	H	H	$COCH_3$	orange
302	HO	H	H	OCH_3	CH_3	3-CH_3	C_2H_5	H	,,	,,
303	HO	4-Cl	H	CH_3	CH_3	2-CH_3	H	H	-CO-Ph	yellow
304	HO	4-CH_3	H	H	OC_2H_5	3-CH_3	H	6-CH_3	$COCH_2$-Ph-CH_3	orange
305	HO	3-Cl	H	C_2H_5	CH_3	3-CH_3	H	H	$-CO-CH_2O$-Ph	yellow
306	HO	2-Cl	4-Cl	CH_3	CH_3	3-CH_3	C_2H_5	H	COC_4H_9	,,

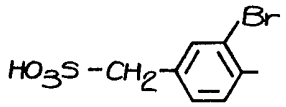
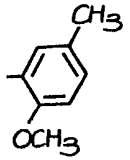
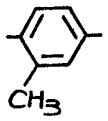
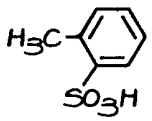
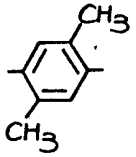
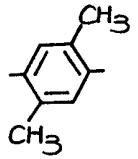
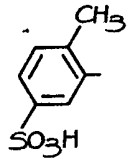
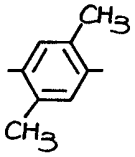
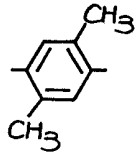
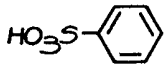
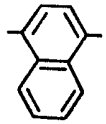
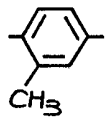
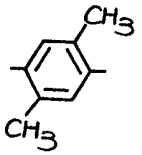
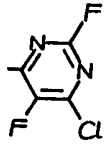
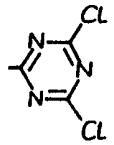
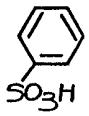
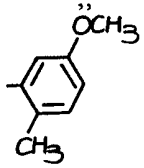
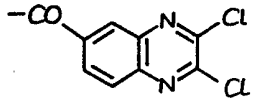


No.	X	R_1	R_2	R_3	R_4	R_5	R_7	R_6	Z	
307	HO	4-OCH_3	H	H	$NHCOCH_3$	H	C_2H_5	H	COC_4H_9	orange
308		H	H	CH_3	CH_3	3-CH_3	H	H	$COCH_3$	yellow
309		H	H	CH_3	OCH_3	H	H	H	,,	,,
310		H	H	CH_3	CH_3	3-OCH_3	H	H		orange

No.	X	R_1	R_2	R_3	R_4	R_5	R_6		Z	
311		4-Cl	H	CH_3	CH_3	3-CH_3	C_2H_4CN	H	$COCH_3$	yellow
312	$C_2H_5SO_2NH$	H	H	H	CH_3	H	H	H		,,
313	$C_4H_9SO_2NH$	H	H	CH_3	H	3-CH_3	H	H	$COOC_2H_5$	,,
314		H	H	H	$-OCH_3$	3-CH_3	H	5-CH_3	$COCH_3$	orange
315		H	H	CH_3	OCH_3	3-CH_3	H	6-CH_3	$-CO-CH_3$	yellowish-tinged orange
316	$HO_3S-C_2H_4-NH-$	H	H	CH_3	CH_3	2-CH_3	H	H	,,	reddish-tinged yellow
317	$HO_3S-O-C_2H_4-NH$	4-Cl	H	CH_3	CH_3	3-CH_3		H	,,	reddish-tinged yellow

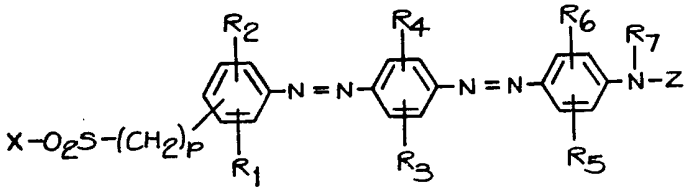


No.	A	B	C	R_7	Z	
318				H	$-CO-CH_3$	reddish-tinged yellow
319	,,		,,	C_2H_5	$-CO-C_3H_7$	,,
320	,,	,,	,,	H	$-CO-CH_3$	,,
321				H		,,
322	,,			H	,,	,,
323	,,	,,	,,	H		,,
324			,,	C_2H_4CN	$-CO-CH_3$	,,

No.	A	B	C	R_7	Z	
325				H	$-CO-CH_3$	yellowish-tinged orange
326				H	$-CO-CH_3$	yellowish-tinged orange
327				H	$COCH_3$	yellowish-tinged orange
328				H	,,	yellowish-tinged red
329	,,		,,	H		yellowish-tinged orange
330	,,	,,	,,	H		,,
331			,,	H		,,

WHAT WE CLAIM IS:

1. A dyestuff which contains only one acid group and in the form of the free acid, corresponds to the general formula



I

in which

p is 0 or 1,

X denotes OH, NH—SO_2—R_8, N(R_9)-alkylene-OSO_3H, N(R_9)-alkylene-SO_3H, N(R_9)-arylene-SO_3H, N(R_9)-arylene-CH_2—SO_3H or N(R_9)-arylene—SO_2—NH—SO_2—R_8,

Z denotes acyl,

R_1 and R_2 independently denote hydrogen or a non-ionic substituent (as hereinbefore defined), R_3, R_4 and R_5 independently denote hydrogen optionally substituted alkyl, optionally substituted aralkyl, optionally substituted aryl, halogen, optionally substituted alkoxy, optionally aryloxy, optionally substituted aralkyloxy or optionally substituted acylamino or,

R_4 and R_3 together denote the remaining members of a fused benzene ring.

R_8 and R_9 denote hydrogen or optionally substituted alkyl,

R_7 denotes hydrogen, optionally substituted alkyl, optionally substituted aryl or optionally substituted aralkyl and R_8 denotes optionally substituted alkyl, optionally substituted aralkyl, optionally substituted aryl or dialkylamino.

2. A dyestuff according to claim 1, in which P is defined as in claim 1, X denotes OH, NH—SO_2—R_8, N(R_9)—(C_2 to C_6)alkylene-OSO_3H, N(R_9)—(C_2 to C_6)alkylene-SO_3H, N(R_9)-phenylene-SO_3H, N(R_9)-phenylene-CH_2—SO_3H or N(R_9)-phenylene-SO_2NH—SO_2—R_8, wherein the phenylene may be substituted by C_1 to C_4 alkyl, C_1 to C_4 alkoxy, halogen, cyano or nitro,

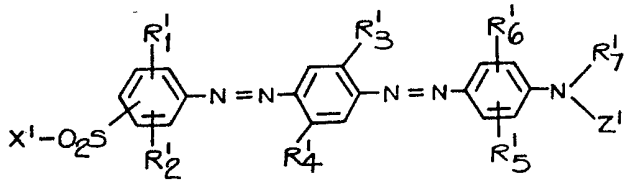
R_1 and R_2 independently denote hydrogen, chlorine or bromine, methyl, ethyl, methoxy, ethoxy, cyano, trifluoromethyl or phenoxy R_3, R_4, R_5 and R_6 independently denote hydrogen, or C_1 to C_4 alkyl, C_1 to C_4 alkoxy, (C_1 to C_4 alkyl)carbonylamino, benzoylamino, C_1 to C_4 alkylsulphonylamino, phenylsulphonylamino, (C_1 to C_4 alkoxy)carbonylamino or phenoxycarbonylamino, wherein the phenyl nuclei may be substituted by methyl, ethyl, methoxy, ethoxy, chlorine, bromine or cyano.

R_7 denotes hydrogen, C_1 to C_4 alkyl group which is optionally substituted by chlorine, hydroxyl or cyano, benzyl or phenethyl,

R_8 denotes C_1 to C_4 alkyl or phenyl which is optionally substituted by methyl, chlorine or bromine,

R_9 denotes hydrogen, methyl or ethyl and Z denotes a (C_1 to C_4 alkyl)carbonyl group which is optionally substituted by cyano, C_1 to C_4-alkoxy, phenoxy or phenyl, benzoyl which is optionally substituted by C_1 to C_4 alkyl, chlorine, bromine, nitro, cyano, C_1 to C_4 alkoxy or a C_1 to C_4 alkylsulphonyl, phenylsulphonyl, phenoxycarbonyl or C_1 to C_4 alkoxycarbonyl group, wherein the phenyl and phenoxy groups may be substituted by chlorine, C_1 to C_4 alkyl, C_1 to C_4 alkoxy or cyano.

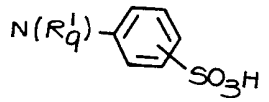
3. A dyestuff according to claim 1 which, in the form of the free acid, corresponds to the general formula



(II)

in which

Z′ denotes C_1 to C_4 alkyl)carbonyl, benzoyl which is optionally substituted by methyl, methoxy or chlorine, phenylacetyl which is optionally substituted by methyl, methoxy, or chlorine or phenoxyacetyl which is optionally substituted by methyl, methoxy or chlorine, X′ denotes OH, NH—SO_2—R_8', $N(R_9')$—C_2 to C_4 alkylene-OSO_3H, $N(R_9')$—C_2 to C_4 alkylene-SO_3H or



R_1' and R_2' independently denote hydrogen, methyl, ethyl, chlorine, bromine or trifluoromethyl,

R_3' and R_4' independently denote hydrogen, methyl, ethyl, methoxy, ethoxy, acetylamino, methylsulphonylamino or phenylsulphonylamino

R_5' denotes hydrogen, methyl, ethyl, methoxy ethoxy or acetylamino

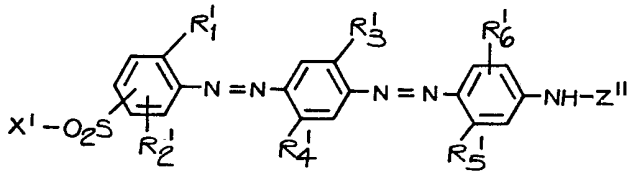
R_6' denotes hydrogen or methyl,

R_7' denotes hydrogen, methyl, ethyl, 2-cyanoethyl, 2-chloroethyl, benzyl or phenethyl,

R_8' denotes C_1 to C_4 alkyl or phenyl which is optionally substituted by methyl, chlorine or bromine and

R_9' denotes hydrogen, methyl or ethyl.

4. A dyestuff according to claim 3 which, in the form of the free acid, corresponds to the general formula



(III)

in which

X′, R_1' and R_6' are defined as in claim 3,

R_2'' denotes hydrogen, or methyl,

R_3'' denotes hydrogen, methyl or methoxy,

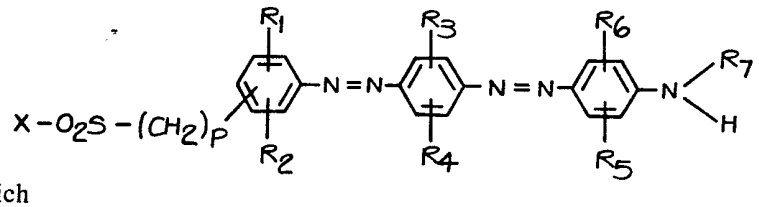
R_4'' denotes hydrogen, methyl, methoxy, ethoxy or acetylamino,

R_5'' denotes hydrogen, methyl or acetylamino and

Z″ denotes acetyl or propionyl, benzoyl which is optionally substituted by methyl, methoxy or chlorine, phenylacetyl which is optionally substituted by methyl, methoxy or chlorine, or phenoxyacetyl which is optionally substituted by methyl, methoxy or chlorine, or phenoxyacetyl which is optionally substituted by methyl, methoxy or chlorine.

5. A dyestuff according to claim 1, as hereinbefore specifically identified.

6. A process for the production of a dyestuff as claimed in claim 1, in which an aminodisazo dyestuff of the general formula

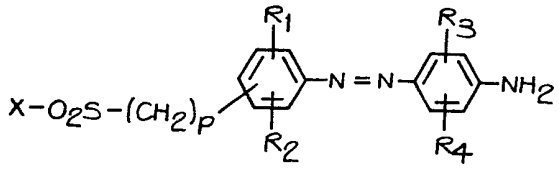


(VI)

in which

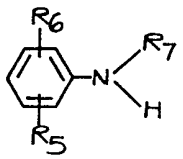
X, p, R_1, R_2, R_3, R_4, R_5, R_6 and R_7 are defined as in claim 1, is acylated.

7. A process according to claim 6, in which the aminodisazo dyestuff of formula (VI) is produced by diazotosing an amino compound of the general formula



(IV)

in which X, R_1, R_2, R_3, R_4 and p are as defined in claim 1, and coupling with an amine of the general formula



(V)

in which R_5, R_6 and R_7 are defined as in claim 1.

8. A process according to claim 1, when carried out substantially as described in any one of the Examples.

9. A dyestuff as claimed in claim 1, when produced by the process of any of claims 6 to 8.

10. A process for dyeing a natural or synthetic fibre material comprising treating the material with a dyestuff as claimed in any of claims 1 to 3, 5 and 9.

11. A process according to claim 10, when carried out substantially as described in the "Dyeing Example."

12. A natural or synthetic fibre material when dyed by the process of claim 10 or 11.

13. A process according to claim 10, in which a dyestuff as claimed in claim 4, is used.

14. A natural or synthetic fibre material when dyed by the process of claim 13.

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