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PHOTOGRAPHIC DEVELOPER

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Our present invention relates to photographic developers.

One of its objects is a group of new photographic developers. Another object is a group of photographic developers which can be used without the addition of alkali. Still another object is a group of photographic developers which can be used with or without the addition of alkali. Further objects will be seen from the detailed specification following hereafter.

For developing photographic silver halide emulsions alkaline developers are generally used. An exception is amidol, which can be made up into a developer only with sulfite. Amidol, however, has various disadvantages. On the one hand a developer prepared with it is easily susceptible to oxidation on exposure to air and is therefore of poor stability; furthermore amidol becomes intensely colored when it is brought into contact with alkali.

The present invention provides developers which, like amidol, develop in absence of alkali but have various advantages over this substance. A developer in accordance with the invention comprises an amino-substituted 2-methylaminophenol, for example, 4-amino-2-methylaminophenol, 5-dimethylamino-2-methylaminophenol, 4-amino-6-methyl-2-methylamino-phenol or 6-amino-4-methyl-2-methylamino-phenol. Such products may be obtained, for example, by fission of amino substituted 2-methyl-benzoxazole dimethyl sulfates with caustic soda solution and subsequent saponification of the acetyl compound by means of hydro-chloric acid. The 2-methylamino-phenols substituted by an amino-group or by a dialkylamino-group excel amidol in particular in the speed of development.

It is possible by introducing a further alkyl-group or a halogen atom to remove the property, possessed by amidol, of becoming intensely colored immediately on contact with alkali.

Finally, the last named di-substituted bodies have, when the substituents are in suitable positions, the remarkable advantage that they are very insensitive towards atmospheric oxidation and therefore yield developers which are stable for long periods.

The following are examples of some developers in accordance with the present invention:

Example 1

200 cc. of water
5 grams of sodium sulfite
1 gram of 5-dimethylamino-2-methylamino-phenol.

Example 2

200 cc. of water
5 grams of sodium sulfite
1 gram of 4-amino-6-methyl-2-methylamino-phenol.

Example 3

200 cc. of water
5 grams of sodium sulfite
1 gram of 6-amino-4-methyl-2-methylamino-phenol.

Example 4

200 cc. of water
5 grams of sodium sulfite
10 grams of potassium carbonate
0.2 grams of potassium bromide
1 gram of 6-amino-4-methyl-2-methylamino-phenol.

What we claim is:

1. A photographic developer including a 2-methylaminophenol containing in its nucleus a radical selected from the group consisting of amino groups and dialkylamino groups.

2. A photographic developer including a 2-methylaminophenol containing in its nucleus a radical selected from the group consisting of amino groups and dialkylamino groups without an alkali.

3. A photographic developer including a 2-methylaminophenol containing in its nucleus besides a radical selected from the group consisting of amino groups and dialkylamino groups a radical selected from the group consisting of halide and alkyl.

4. A photographic developer including a 2-methylaminophenol containing in its nucleus besides a radical selected from the group consisting of amino groups and dialkylamino groups a radical selected from the group consisting of halide, alkyl and an alkali.

5. A photographic developer including 5-dimethylamino-2-methylamino-phenol.

6. A photographic developer including 4-amino-6-methyl-2-methylamino-phenol.

7. A photographic developer including 6-amino-4-methyl-2-methylamino-phenol.

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