And the reflectance of infrared red ray is measured with respect to the recorded image after light irradiation.

(5) Oil resistance

The recorded image printed in Note (2) is defined as image density before oil treatment. A drop of castor oil is applied on the recorded image, and wished off with filter paper after 10 sec. The obtained paper allows to stand for 24 hours at room temperature, and image density after oil treatment is measured. Residual rate is calculated from the following equation.

$$\text{Residual rate} = \frac{\text{Image density after oil treatment}}{\text{Image density before oil treatment}} \times 100\ (\%)$$

And the reflectance of infrared ray is measured with respect to the recorded image after oil treatment.

(6) Weather resistance

The recorded image printed in Note (2) is defined as image density before treatment. The recorded image allows to stand for a week under the conditions of 25° C. and 50% RH, and then the image density is measured by Macbeth densitometer.

$$\text{Residual rate} = \frac{\text{Image density after treatment}}{\text{Image density before treatment}} \times 100\ (\%)$$

And the reflectance of infrared ray is measured by spectrophotometer (using a wave length of 800 nm) with respect to the recorded image after treatment.

This heat-sensitive recording material of this invention exhibits following effects.

(1) superior optical readability in the near infrared region,

(2) better in light resistance, oil resistance, weather resistance, which provides a material with superior preservability.

(3) useable under severe conditions in bar-code-label, etc., owing to the above effect.

We claim:

1. A heat-sensitive recording material comprising a support having thereon a color-developing layer which contains as its ingredient a colorless or pale colored basic chromogenic dyestuff and an organic color-developing agent, said color-developing layer comprising as said organic color-developing agent at least one substance selected from the group consisting of 2,4'-dihydroxydiphenylsulfone and bis-(3-tert.-butyl-4-hydroxy-6-methylphenyl)sulfone and as said colorless basic chromogenic dyestuff 3,6,6'-tris-(dimethylamino)-spiro[fluorene-9,3'-phthalide].

2. The heat-snsitive recording material according to claim 1, wherein said color-developing layer comprises said fluorene-type leuco dyestuff and further a black color forming fluoran dyestuff.

3. The heat-sensitive recording material according to claim 1, wherein said color-developing layer comprises further a halogen-sustituted zinc benzoate derivative.

4. The heat-sensitive recording material according to claim 1, wherein said color-developing layer comprises 1–8 parts by weight of organic color-developing agent and 1–20 parts by weight of filler, based on 1 part by weight of basic colorless chromogenic dyestuff, and 10–25 parts by weight of binder in 100 parts by weight of total solid content.

5. The heat-sensitive recording material according to claim 1, wherein said support is at least one member selected from a group consisting of paper, synthetic paper and film.

6. The heat-sensitive recording material according to claim 1, wherein the back surface of said substrate is laminated with a thin transparent resin film.

7. The heat-sensitive recording material according to claim 6, wherein said resin film is at least one member selected from a group consisting of polyester and polypropylene.

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