Methyl Green

Product Number  M 8884
Store at Room Temperature

Product Description
Molecular Formula:  \( \text{C}_{27}\text{H}_{35}\text{Cl}_2\text{N}_3 \cdot \text{ZnCl}_2 \) or  
\( \text{C}_{27}\text{H}_{35}\text{BrCl} \cdot \text{ZnCl}_2 \)
Molecular Weight:  608.8 or 653.2
CAS Number:  7114 -03-6
\( \lambda_{\text{max}}: \)  630 - 635 nm
Extinction Coefficient:  \( E^{1\%} = 800 - 1100 \) (water)
Minimum dye content:  90%

This product may be a mixture of monobromo, monochloro and dichloro ZnCl\(_2\) salts. The halogen content is listed on the Certificate of Analysis. The reported dye content is based on the molecular weight of the monobromo, monochloro ZnCl\(_2\) salt (653.2 daltons).

A buffered 1% (w/v) methyl green solution is a suitable counterstain for chloroacetate esterase, nonspecific esterase, alkaline phosphatase, peroxidase, naphthol AS acetate esterase, and acid phosphatase.

Methyl green may be used as a pH indicator. It is yellow at pH 1, green at pH 2, blue at pH equal to or greater than 3.

For protocols requiring methyl green that is free of crystal violet (such as staining DNA), either Product No. M 8884 may be extracted with chloroform or Product No. M 6776 (Methyl Green, Crystal Violet-free) may be purchased.

A typical working concentration for using methyl green as a counterstain is 0.1-0.5%. A procedure for staining animal tissue for nucleoli and cytoplasmic granules of liver cells, differentiating cytoplasmic and nucleolar basophilia from chromatin has been published. The use of bismarck brown with methyl green for staining mucin, cartilage and goblet cells in embryonic, trachea or intestinal tissue has been published. A procedure for the use of acidulated methyl green (in 1% acetic acid) for staining chromatin in temporary preparations of protozoans has been published. The use of methyl green in glycerin-jelly to show exine of pollen-grain has been published. A discussion of Albert’s Stain for diptheria organisms (only fair staining for cytoplasmic barring) has been published.

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is soluble in water (1 mg/ml), yielding an opaque, dark blue solution.

References
2. Sigma Quality Control.

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