1.01374.0025

# Microscopy

# Brilliant green (hydrogen sulfate) (C.I. 42040)

for microscopy Certistain®

IVD In Vitro Diagnostic Medical Device

CE

This staining dye "Brilliant green (hydrogen sulfate) (C.I. 42040) - for microscopy Certistain®" is used for human-medical cell diagnosis and serves the purpose of the bacteriological investigation of sample material of human origin. It is a dry staining dye that is used to prepare a staining solution, that when used together with other in vitro diagnostic products from our portfolio makes target structures in bacteriological specimen materials (by fixing, where necessary embedding, staining with the above brilliant green solution, counterstaining, mounting) evaluable for diagnostic purposes.

## Principle

In the area of bacteriology, among others the Gram staining method, the Ziehl-Neelsen staining method, and the spore-staining method according to Rakette are used to yield a differentiated image of pathogens.
This can be done either by using eosin Y as a counterstain or by modification according to Wirtz using safranine O solution.
By this method, spores are always stained green and the cell elements always red.

## Sample material

Smears of bacteriological material that have been air-dried and heat-fixed like sputum, smears from fine needle aspiration biopsies (FNAB), rinses, imprints, effusions, pus, exsudates, liquid and solid cultures

## Reagents

Cat. No. 1.01374.0025

Brilliant green (hydrogen sulfate) (C.I. 42040) for microscopy Certistain® 25 g

Color Index No.: 42040
Color Index Name: Basic green 1

**Also required:**

Cat. No. 115935 Eosin Y (yellowish) (C.I.45380) for microscopy Certistain® 25 g, 100 g

or

Cat. No. 115948 Safranine O (C.I. 50240) for microscopy Certistain® 25 g

## Sample prepration

The sampling must be performed by qualified personnel.

Apply the specimen material to a clean and grease-free slide using an annealed loop. Then smear the material either directly onto the slide or first mix with 1 - 2 drops of physiological saline solution (Ringer's solution). Air-dry and then heat-fix by slowly drawing the slide (smear side facing up) through the upper part of the Bunsen-burner flame for three times. Subsequently, allow to cool and stain.
The air-dried smears must be heat-fixed very carefully. This prevents the risk of infections and reduces the dissolution of specimen material and thus, the contamination of solutions and other slides.

All samples must be treated using state-of-the-art technology.
All samples must be clearly labeled.
Suitable instruments must be used for taking samples and their preparation. Follow the manufacturer's instructions for application / use.

## Reagent preparation

**Brilliant green solution**

For preparation of approx. 100 ml solution mix:

| | |
|---|---|
| Brilliant green (hydrogen sulfate) (C.I. 42040) Certistain® | 5 g |
| Distilled water | 100 ml |
| dissolve and filter | |

**Eosin Y solution**

For preparation of approx. 100 ml solution mix:

| | |
|---|---|
| Eosin Y (yellowish) (C.I.45380) Certistain® | 2.5 g |
| Distilled water | 100 ml |
| dissolve and filter | |

**Safranine O solution**

For preparation of approx. 100 ml solution mix:

| | |
|---|---|
| Safranine O (C.I. 50240) Certistain® | 0.5 g |
| Distilled water | 100 ml |
| dissolve and filter | |

The freshly prepared staining solutions should be filtered before use.

## Procedure

**Staining on the staining rack**

| | | |
|---|---|---|
| Slide with fixed smear | | |
| Brilliant green solution | cover completely<br>heat (boil) on Bunsen-burner flame | 20 sec |
| | leave to stand | at least 30 sec |
| Running tap water | rinse | 30 sec |
| Eosin Y solution<br>or<br>Safranine O solution | cover completely and leave to react | 30 sec |
| Running tap water | rinse | |
| Air-dry (e.g. over night or at 50 °C in the drying cabinet) | | |

Covering with non-aqueous mounting media (e.g. Neo-Mount® or Entellan® new) and a cover glass is recommended for the storage of bacteriological specimens for several months. For this purpose, the stained specimens must be dried very well. When left unmounted, the stain remains stable for approx. 3 days, covered with immersion oil for just a few hours.

The use of immersion oil is recommended for the analysis of stained slides with a microscopic magnification >40x.

## Result

| | |
|---|---|
| Spores | green |
| Cell elements | red |

## Technical notes

The microscope used should meet the requirements of a medical diagnostic laboratory.
When using histoprocessors and automatic staining systems, please follow the instructions for use supplied by the supplier of the system and software.
The freshly prepared staining solutions should be filtered before use.

Remove surplus immersion oil before filing.

## Diagnostics

Diagnoses are to be made only by authorized and trained personnel.
Valid nomenclatures must be used.
Further tests must be selected and implemented according to recognized methods.
Suitable controls should be conducted with each application in order to avoid an incorrect result.

## Storage

Store Brilliant green (hydrogen sulfate) (C.I. 42040) - for microscopy Certistain® at +5 °C to +30 °C.

## Shelf-life

Brilliant green (hydrogen sulfate) (C.I. 42040) - for microscopy Certistain® can be used until the stated expiry date.

After first opening of the bottle, the contents can be used up to the stated expiry date when stored at +5 °C to +30 °C.

The bottles must be kept tightly closed at all times.

## Additional instructions

**For professional use only.**
In order to avoid errors, the application must be carried out by qualified personnel only.
National guidelines for work safety and quality assurance must be followed.
Microscopes equipped according to the standard must be used.

## Protection against infection

Effective measures must be taken to protect against infection in line with laboratory guidelines.

## Instructions for disposal

The package must be disposed of in accordance with the current disposal guidelines.
Used solutions and solutions that are past their shelf-life must be disposed of as special waste in accordance with local guidelines. Information on disposal can be obtained under the Quick Link “Hints for Disposal of Microscopy Products” at www.microscopy-products.com. Within the EU the currently applicable REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, amending and repealing. Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 applies.

## Auxiliary reagents

| | | | |
|---|---|---|---|
| Cat. No. | 104699 | Immersion oil<br>for microscopy | 100-ml dropping bottle, 100 ml, 500 ml |
| Cat. No. | 107961 | Entellan® new<br>rapid mounting medium<br>for microscopy | 100 ml, 500 ml, 1 l |
| Cat. No. | 109016 | Neo-Mount®<br>anhydrous mounting medium<br>for microscopy | 100-ml dropping bottle, 500 ml |
| Cat. No. | 115935 | Eosin Y (yellowish) (C.I.45380)<br>for microscopy Certistain® | 25 g, 100 g |
| Cat. No. | 115948 | Safranine O (C.I. 50240)<br>for microscopy Certistain® | 25 g |

## Hazard classification

Cat. No. 1.01374.0025

Please observe the hazard classification printed on the label and the information given in the safety data sheet.
The safety data sheet is available on the website and on request.

## Main components of the product

Cat. No. 1.01374.0025

C.I. 42040 ≥ 95 %
$C_{27}H_{34}N_2O_4S$
M = 482.65 g/mol

## Other IVD products

| | | | |
|---|---|---|---|
| Cat. No. | 102439 | Eosin Y-solution 0.5%, alcoholic<br>for microscopy | 500 ml, 2.5 l |
| Cat. No. | 109215 | Ziehl-Neelsen carbolfuchsin solution<br>for microscopy | 100 ml, 500 ml, 2.5 l |
| Cat. No. | 109217 | Gram’s safranine solution<br>for the Gram staining method | 500 ml, 2.5 l |
| Cat. No. | 109844 | Eosin Y-solution 0.5% aqueous<br>for microscopy | 1 l, 2.5 l |
| Cat. No. | 117081 | Eosin Y solution 1%, alcoholic<br>for microscopy | 1 l |

## Literature


1. Theory and application of Microbiological Assay, Hewitt, W. and Vincent, S., 1989, Academic Press
2. Conn’s Biological Stains: A Handbook of Dyes, Stains and Fluorochromes for Use in Biology and Medicine, 10th Edition, (ed. Horobin, R.W. and Kiernan, J.A). Bios, 2002



Consult instructions for use


Manufacturer

Catalog number

Batch code


Caution, consult accompanying documents


Use by YYYY-MM-DD


Temperature limitation

Status: 2017-08-16


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