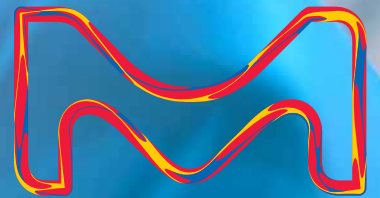


**Millipore
SIGMA**

HARLECO® Dyes & Stains

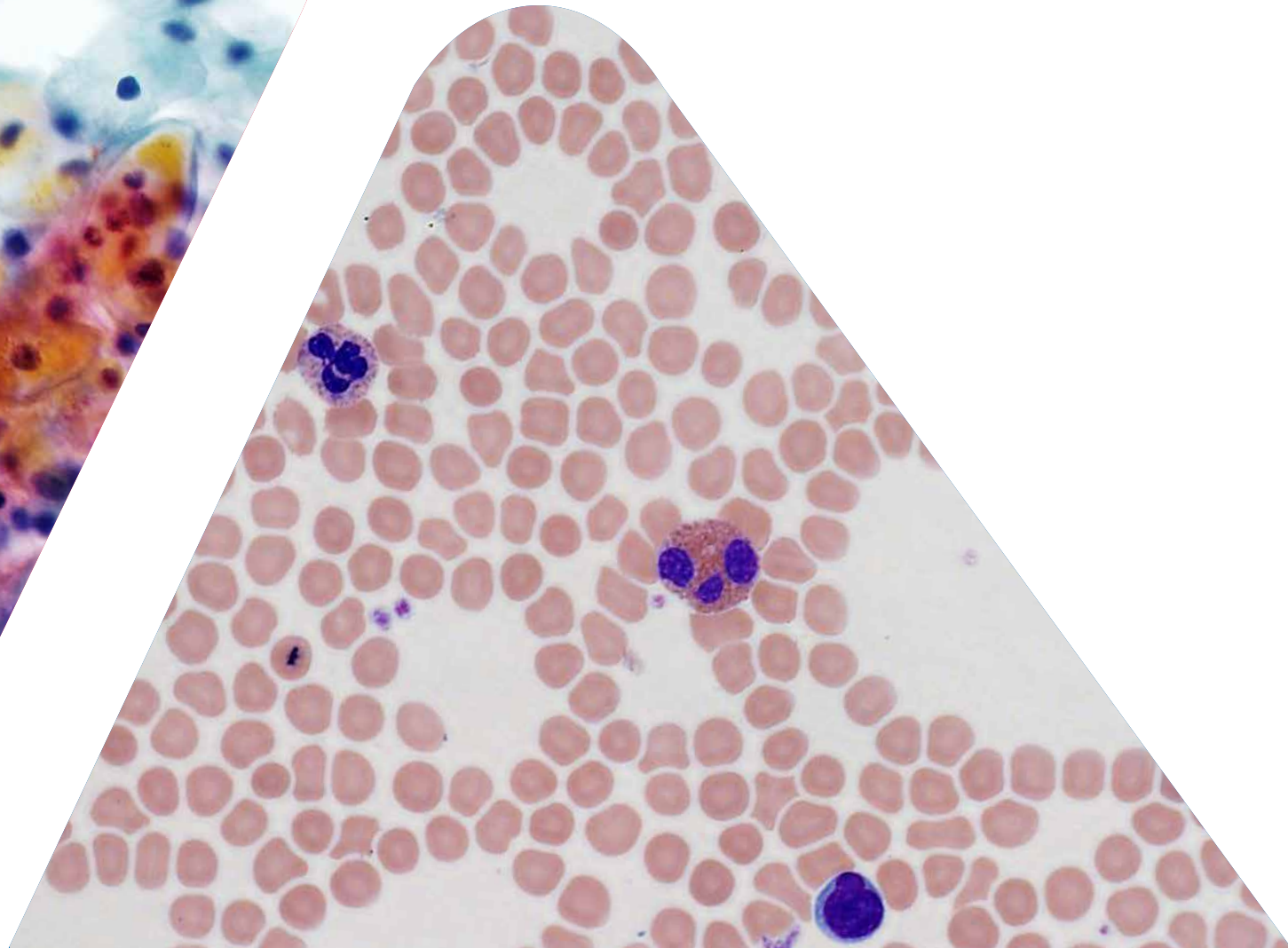
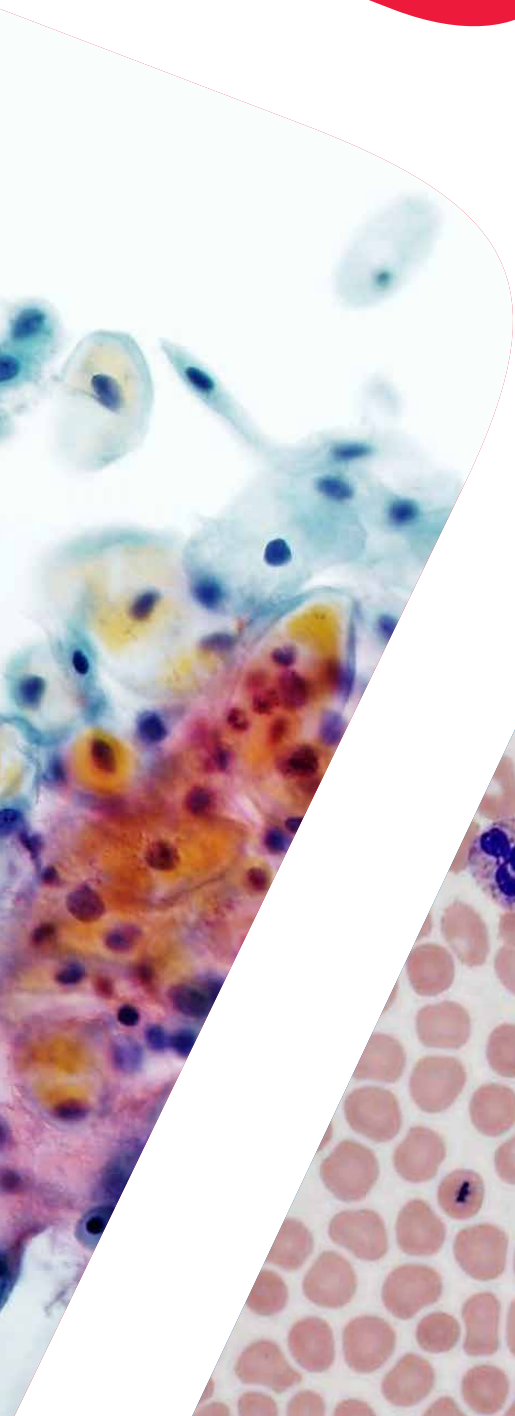


The life science
business of Merck
KGaA, Darmstadt,
Germany operates as
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Lab & Production Materials

The 100th Anniversary

Since 1919, HARLECO® brand dyes and stains have given outstanding contrast, color and clarity to your sample specimens. HARLECO® stain solutions cover not only the classical formulations, but also many new and improved modifications, developed from our years of experience. In addition, our offer includes the Midas® III-Plus Automated Stainer and a complete line of products for sample preparation.



Hematology

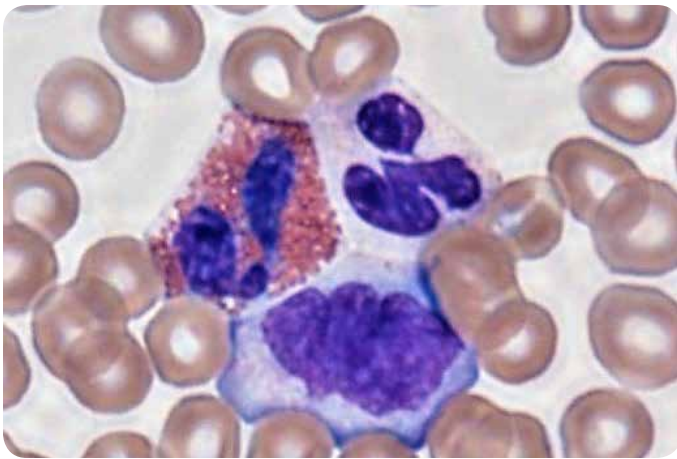
Reagents to identify diseases of the blood and blood forming organs

The HARLECO® product line offers ready to use staining solutions for blood and bone marrow samples that yield intense and reproducible results. Reproducibility can be enhanced by the use of phosphate buffer solution, which stabilizes diluted staining solutions. We offer buffers with different pH levels, so that you may obtain optimal staining results. For higher slide staining throughput or for preparing urgent lab samples, Hemacolor®, the fast staining kit, can give very clean results in less than one minute.

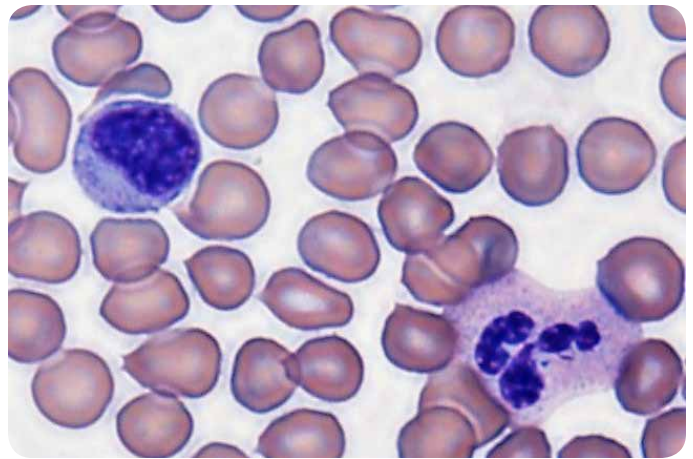
Product	Description	Size	Catalog No.
HARLECO® Giemsa Stain Solution, Azure B	Polychromatic stain used as a stand alone stain or in combination with Wright Stain for staining of blood parasites such as malaria and rickettsia.	500 mL	619-71
HARLECO® Giemsa Stain Solution, Modified Azure Blend	Polychromatic stain used primarily with Wright Stain to stain blood cells and bone marrow specimens. Also used in microbiology and histology.	1 L	620-75
HARLECO® Giemsa Stain Solution, Original Azure Blend	Specially formulated for staining G-bands of chromosomes in genetic studies. Can also be used with Wright Stain for blood and bone marrow staining.	1 L	620G-75
HARLECO® Giemsa Stain Solution	Differential blood staining	500 mL 1L 4L	R03055-74 R03055-76 R03055-82
HARLECO® Jenner Stain Solution	Blood stain producing results similar to Wright Stain. Nuclei are lighter, more greenish blue. May be used with Giemsa Stain for bone marrow preparations.	1 L	642-75
HARLECO® May-Grunwald Solution	Blood stain producing results similar to Wright Stain. May be used in conjunction with Giemsa Stain for bone marrow preparations.	1 L 4L	660-75 660-85
HARLECO® Wright Stain Solution	Polychromic stain for peripheral blood and bone marrow smears. Used for red blood cell morphology and white blood cell differentiation.	1 L 4L 10L	740-75 740-85 740-86
HARLECO® Wright Giemsa Solution, APHA	Polychromic stain for peripheral blood and bone marrow smears. Used for RBC morphology and WBC differentiation. Specifically formulated for staining malarial parasites.	1 L 10L	742-75 742-86
HARLECO® Wright Giemsa Solution, Fucillo	Polychromatic stain for peripheral blood and bone marrow smears. Used for RBC morphology and WBC differentiation.	500 mL 1L 4L	64571-95 64571-75 64571-85
HARLECO® Wright Giemsa Stain Pack	Designed for use with the Ames Hema-Tek® Stainer.	1 PC	65042-93
HARLECO® Wright Stain Pack	Designed for use with the Ames Hema-Tek® Stainer.	1 PC	65043-93
HARLECO® Leishman Stain Solution	Used for staining blood smears to differentiate blood corpuscles, malarial parasites, trypanosomes, etc. Can be used as an alternative to Giemsa and for use in staining bone marrow sections.	1 L	R03087-76
HARLECO® Hemacolor® Stain Set	Complete stain set for quick differential staining of peripheral blood cells. Similar results to that of Wright/Wright-Giemsa Stain.	1 PAC	65044-93
HARLECO® Hemacolor® Solution I	Fixing solution (contains methanol). May also be used as a fixative for all Wright and Wright-Giemsa staining protocols.	4 L	65044A-85
HARLECO® Hemacolor® Solution II	Color reagent red (eosin solution)	4 L	65044B-85
HARLECO® Hemacolor® Solution III	Color reagent blue (thiazine solution)	4 L	5044C-85
HARLECO® Buffer, Phosphate pH 6.4	Buffer used in Wright and Wright-Giemsa staining protocols.	1 L 4L	1217-75 1217-85
HARLECO® Buffer, Phosphate pH 6.8	Buffer used in Wright and Wright-Giemsa staining protocols.	1 L 4L	1218-75 1218-85
HARLECO® Buffer, Phosphate pH 7.0	Buffer used in Wright and Wright-Giemsa staining protocols.	1 L 4L	1219-75 1219-85

Product	Description	Size	Catalog No.
Dry Dyes and Mixtures*			
HARLECO® Cresyl Blue Brilliant	Hematological stain to show reticulocytes.	25 g	163
HARLECO® Giemsa Stain Powder	Used in staining protocols requiring Giemsa.	25 g	228
HARLECO® Leishman Stain Powder	Used for blood, malarial parasites and bone marrow staining.	25 g	252
HARLECO® Sudan Black B Powder	Detection of fatty material in bacteria.	25 g	3545
HARLECO® Wright Stain Powder	Used extensively in staining blood cells.	25 g, 100 g, 1 kg	376

* Harleco® dyes for microscopy are analyzed chemically and provide consistent batch-to-batch performance. These dyes and dye mixtures are certified by the Biological Stain Commission (BSC), which ensures quality through independent testing, according to stringent chemical and performance criteria.



Blood smear, Wright Stain Solution



Blood smear, Hemacolor® Stain Set

Cytology

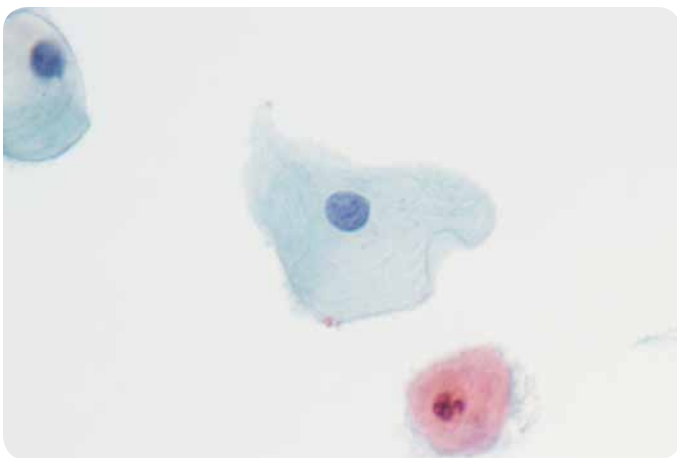
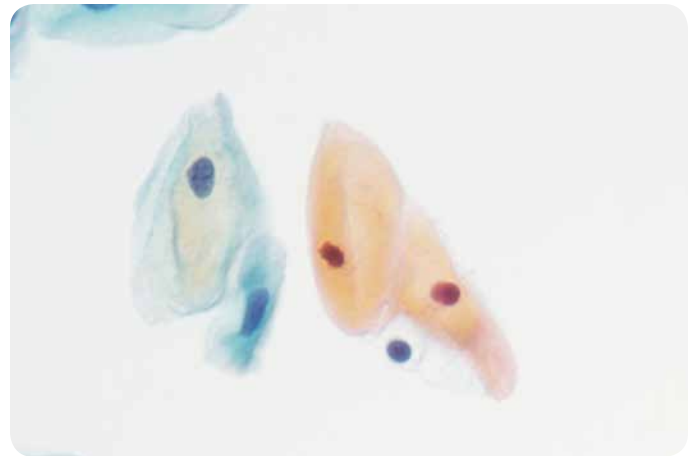
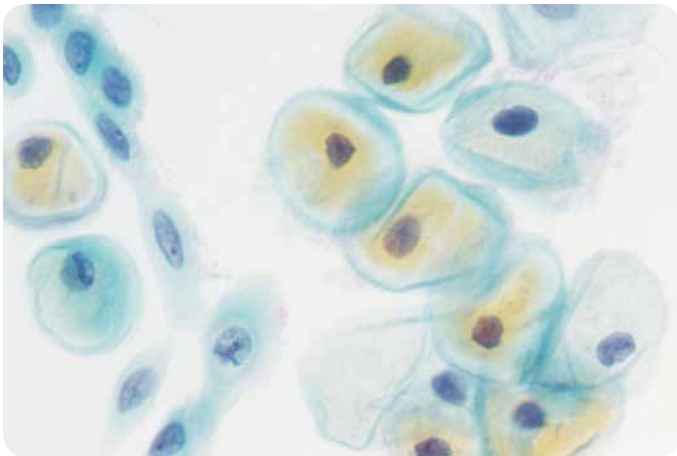
Reagents for brilliant and highly reproducible sensitive results

To stain gynecological and clinical specimens, use standard Papanicolaou sample staining with hematoxylin Gill's solution. In addition, you can rely on our high quality alcohol and the xylene substitute, Neo-Clear®, to further improve your results.

Product	Description	Size	Catalog No.
HARLECO® Hematoxylin, Gill I	Progressive nuclear stain using sodium iodate as the oxidizing agent. Contains acetic acid.	4 L	65065-85
HARLECO® Hematoxylin, Gill II	Same as Gill I but double the strength. May be used for progressive or regressive staining in cytology and histology.	4 L	65066-85
HARLECO® Hematoxylin, Gill III	Same as Gill I but triple the strength. Can be used for routine tissue specimens glycol and methylmethacrylate sections. For regressive staining.	4 L	65067-85
HARLECO® Hematoxylin, Harris Alum, Hg Free	Mercury-free formulation. Uses sodium iodate as an oxidizer. Nuclear stain used in routine hematoxylin and eosin staining, as well as Pap staining.	500 mL 4L	638A-71 638A-85
HARLECO® EA Solution, Gill (with Eosin and Light Green)	EA stain modified to exclude Bismarck Brown.	4 L	65068-85
HARLECO® Orange G Solution, Gill	Modification of OG-6 counterstain used in Pap staining.	4 L	65069-85
HARLECO® Papanicolaou, OG-6	Cytoplasmic counterstain for Pap staining technique.	1L 4L 10L	7052X-75 7052X-85 7052X-86
HARLECO® Papanicolaou, EA-65	Cytoplasmic counterstain for Pap staining technique.	4 L 10L	7054X-85 7054X-86
HARLECO® Papanicolaou, EA-36	Cytoplasmic counterstain for Pap staining technique.	1 L 4L	7058X-75 7058X-85
HARLECO® Papanicolaou, EA-50	Cytoplasmic counterstain for Pap staining technique.	1 L 4L	7062X-75 7062X-85
HARLECO® Blueing Reagent	An alkaline solution used to blue nuclear chromatin preceding differentiation in routine staining methods. Contains sodium azide.	4 L	65354-85
HARLECO® Acid Alcohol, 70% (3% HCl)	Decolorizer for differentiating nuclear chromatin in regressive staining methods. 3% HCl	1 L	752X-75
HARLECO® Alcohol, 100%	Used to hydrate or dehydrate tissue samples in tissue processing and staining protocols.	4 L	65347-85
HARLECO® Alcohol, 95%	Used to hydrate or dehydrate tissue samples in tissue processing and staining protocols.	4 L	65348-85
HARLECO® Alcohol, 70%	Used to hydrate or dehydrate tissue samples in tissue processing and staining protocols.	4 L	65350-85
Neo-Clear® Xylene Substitute	Aromatic solvent used for clearing and deparaffinizing steps in staining and tissue processing. Used in place of xylene and toluene.	4 L	65351-85

Product	Description	Size	Catalog No.
Dry Dyes and Mixtures*			
HARLECO® Eosin Y Powder	Used as a counterstain for hematoxylin and as a constituent of Wright Stain.	25 g, 100g	200
HARLECO® Fast Green	Cytology counterstain for plant tissue.	25 g	210
HARLECO® Fuchsin Acid	For use in the Van Gieson connective tissue stain and in Mallory's aniline blue connective tissue stain.	25 g, 100 g	218
HARLECO® Giemsa Stain Powder	Used in staining protocols requiring Giemsa.	25 g	228
HARLECO® Hematoxylin, powder	Nuclear staining. Used in various formulations of hematoxylin, such as Weigert, Harris, Gill, Mayer and Ehrlich.	25 g, 100 g	234
HARLECO® Light Green SF Yellowish	Used as cytoplasmic stain for parasites in tissue and for Massons Trichrome stain.	25 g	254
HARLECO® Nuclear Fast Red	General counterstain.	5 g	7602

* Harleco® dyes for microscopy are analyzed chemically and provide consistent batch-to-batch performance. These dyes and dye mixtures are certified by the Biological Stain Commission (BSC), which ensures quality through independent testing, according to stringent chemical and performance criteria.



Gynecological smears, Papanicolaou's staining – Harris Hematoxylin + OG-6 + EA 50

Histology

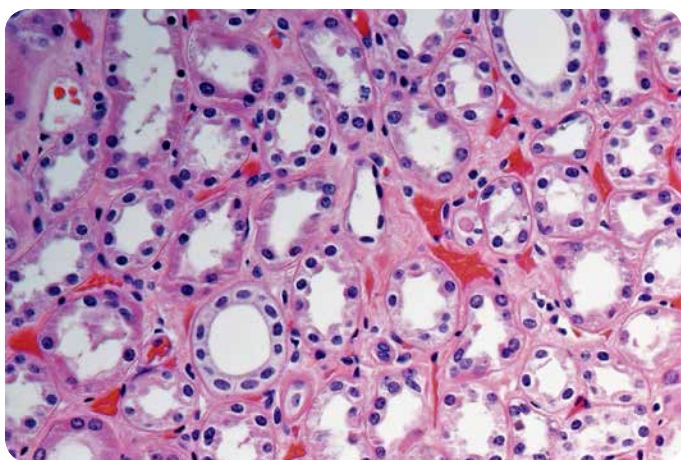
Reagents for brilliant and stable results from the first to the last step in the workflow

Precise specimen preparation is a necessity to obtaining definitive results for diagnostic analysis. We offer all of the products needed for preparing histology samples, including top quality fixing media and high purity solvents. HARLECO® stain results are color stable, reproducible and offer sufficient sensitivity to reveal all structural details.

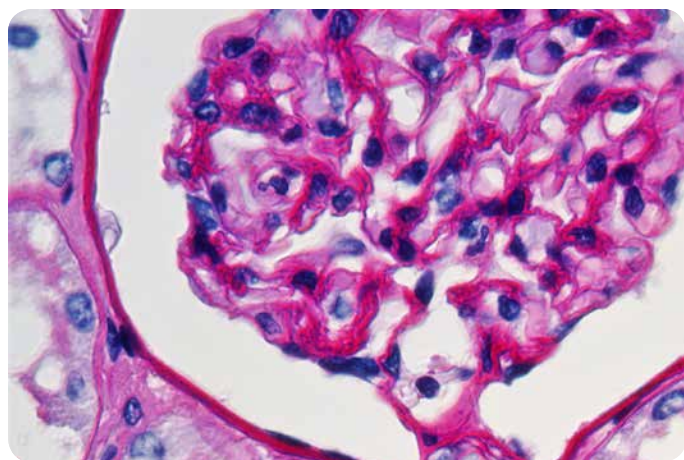
Product	Description	Size	Catalog No.
HARLECO® Eosin Y Solution, Alcoholic Saturated	A saturated solution of Eosin in alcohol. Can be used for glycol/methylmethacrylate processed tissues	1 L	586X-7
HARLECO® Eosin Y Solution, Aqueous, 1% PDC	Cytoplasmic counterstain for hematoxylin in an alcoholic base. Most widely used in histology for H&E staining of tissues.	1 L	588X-75
HARLECO® Eosin Y Solution, Aqueous, 1% PDC	Cytoplasmic counterstain for hematoxylin in an aqueous base.	1 L	592-75
HARLECO® Eosin Stain Solution, 5%	Cytoplasmic stain	500 mL	R03040-74
HARLECO® Schiff Reagent	Detection of polysaccharides	500 mL	2818-71
HARLECO® Schiff Reagent, Hotchkiss/McManus	For the PAS reaction. May be used as replacement for Schiff Reagent in the PAS Kit.	500 mL	6073-71
HARLECO® Gomori Trichrome	Connective tissue stain for collagen and muscle tissue.	500 mL	623-71
HARLECO® Formalin 10%, Neutral Buffered	Ready-to-use histological tissue fixative	1L 4L 4L (bottle) 20L 200L	R04586-76 R04586-82 R04586B-82 R04586-86 R04586-90
HARLECO® Formalin, Neutral Buffered 10%	Ready-to-use histological tissue fixative	4 L 20L	65346-85 65346-88
HARLECO® Formalin 20%, Phosphate Buffered	Ready-to-use histological tissue fixative	1 CV 20L	R04587-01, R04587-86
HARLECO® Formalin Neutral 10%, Carbonate Buffered	Ready-to-use histological tissue fixative	4 L 20L	R03379-82 R03379-86
HARLECO® Formalin, Carsons	1:10 dilution of neutral buffered formalin used for tissue fixation in histology. Can be used for tissue specimens in electron microscopy.	20 L	65115-88
HARLECO® SAF Fixative (Acetate Buffered Formalin)	Acetate Buffered Formalin	200 L	R04650-90
HARLECO® SAF Fixative with Triton (Acetate Buffered Formalin)	Acetate Buffered Formalin	200 L	R04561-90
HARLECO® Formaldehyde Kit	Concentrates to make NBF	2x10 L	R04669-01
HARLECO® Bouin Fixation Fluid	Tissue Fixative. Good for nuclei and chromosomes. Useful in mitosis, oogenesis and spermatogenesis studies. Excellent for preserving delicate cytoplasmic structures such as cilia, mitotic spindles and astral radiations.	4 L 20 L	7831-85 7831-88
HARLECO® Albumin-Glycerol Fixative	Mayer's fixative	100 mL 500 mL	R03203-70 R03203-74
HARLECO® Mollifex™ Tissue Softener	Softening agent for use with paraffin embedded tissues. Ideal for hard to section blocks and brittle tissues.	500 mL	65039-71
HARLECO® Acid Alcohol, 70% (3% HCl)	Decolorizer for differentiating nuclear chromatin in regressive staining methods. 3% HCl	1 L	752X-75
HARLECO® Alcohol, 100%	Used to hydrate or dehydrate tissue samples in tissue processing and staining protocols.	4 L	65347-85
HARLECO® Alcohol, 95%	Used to hydrate or dehydrate tissue samples in tissue processing and staining protocols.	4 L	65348-85
HARLECO® Alcohol, 80%	Used to hydrate or dehydrate tissue samples in tissue processing and staining protocols.	4 L	65349-85
HARLECO® Alcohol, 70%	Used to hydrate or dehydrate tissue samples in tissue processing and staining protocols.	4 L	65350-85

Product	Description	Size	Catalog No.
Neo-Clear® Xylene Substitute	Aromatic solvent used for clearing and deparaffinizing steps in staining and tissue processing. Used in place of xylene and toluene.	4 L	65351-85
HARLECO® Krystalon™ Mounting Medium	Toulene-based. Use as a liquid coverslip or with a coverglass.	300 mL 500 mL	64969-95 64969-71
Dry Dyes and Mixtures*			
HARLECO® Alcian Blue	Demonstration of mucopolysaccharides as well as a general microscopic stain.	10 g	109
HARLECO® Aniline Blue W.S.	For use in staining cytoplasm, cellulose and determining hydrolysis of fats, and as a contrast stain for carmine.	25 g	128
HARLECO® Eosin Y Powder	Used as a counterstain for hematoxylin and as a constituent of Wright Stain.	25 g, 100g	200
HARLECO® Fuchsin Acid	For use in the Van Gieson connective tissue stain and in Mallory's aniline blue connective tissue stain.	25 g, 100 g	218
HARLECO® Giemsa Stain Powder	Used in staining protocols requiring Giemsa.	25 g	228
HARLECO® Hematoxylin, powder	Nuclear staining. Used in various formulations of hematoxylin, such as Weigert, Harris, Gill, Mayer and Ehrlich.	25 g, 100 g	234
HARLECO® Methylene Blue Chloride	Used for histological and bacteriological staining and as a constituent of Wright Stain.	25 g, 100 g, 500 g	284
HARLECO® Nuclear Fast Red	General counterstain.	5 g	7602
HARLECO® Saffron	Used to stain collagen.	25 g	3801
HARLECO® Sudan Black B Powder	Detection of fatty material in bacteria.	25 g	3545
HARLECO® Toluidine Blue O	For use in histological sections, animal tissue and as a general nuclear stain.	25 g	364

* Harleco® dyes for microscopy are analyzed chemically and provide consistent batch-to-batch performance. These dyes and dye mixtures are certified by the Biological Stain Commission (BSC), which ensures quality through independent testing, according to stringent chemical and performance criteria.



Paraffin section kidney, H&E staining



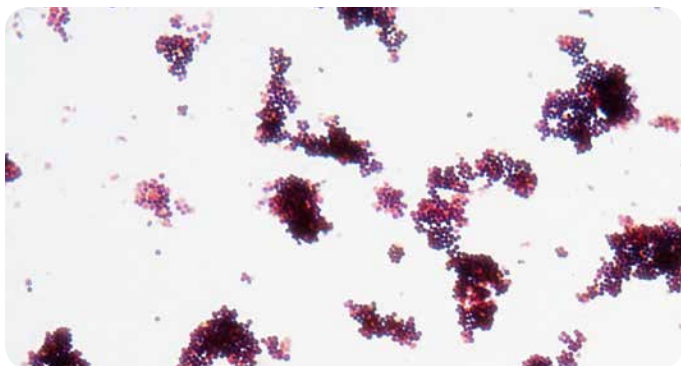
Paraffin section kidney, Schiff Reagent, Hotchkiss/McManus (PAS)

Microbiology

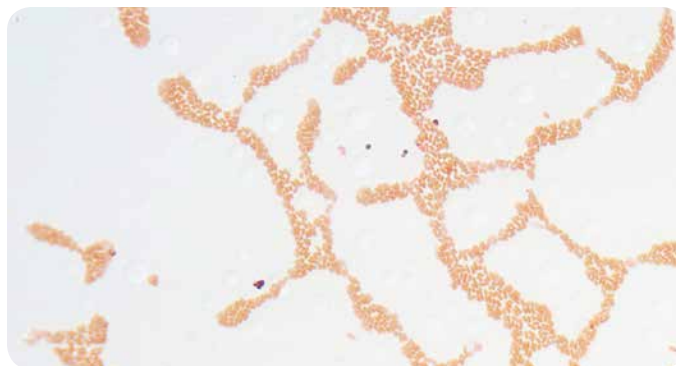
Reagents for standard stains and reliable results with manual or automated staining

HARLECO® bacteriological standard stains for Gram and TB detection offer easy application and reproducible, stable results. The staining solutions can be used for manual as well as for automated staining procedures in the Midas® III-Plus automated stainer.

Product	Description	Size	Catalog No.
HARLECO® Gram Staining Set, 4 x 500 mL	Complete kit containing crystal violet, iodine, decolorizer and safranin stain.	4 x 500mL	65092-93
HARLECO® Crystal Violet, Gram Solution	Individual replacement for crystal violet component of the Gram Staining Set. Stains Gram-positive bacteria purple.	500mL 4L	65092A-95 65092A-85
HARLECO® Safranin Solution, Gram	Individual replacement for safranin component of the Gram Staining Set. Stains Gram-negative bacteria red.	500mL 4L	65092B-95 65092B-85
HARLECO® Iodine Solution, Gram (Stabilized)	Individual replacement for the iodine component of the Gram Staining Set. Chemically binds crystal violet stain to the cell wall.	500mL 4L	65092D-95 65092D-85
HARLECO® Decolorizer, Gram Solution	Individual replacement for decolorizer component of the Gram Staining Set. Mixture of acetone and isopropanol used to decolorize Gram-negative bacteria.	500mL 4L	65092E-95 65092E-85
HARLECO® Iodine Lugol's	Lugol's formulation of iodine which can be used for various Gram staining methods including Hucker and Stirling methods.	500 mL	624-71
HARLECO® Safranin Solution, 1%	Aqueous solution for general purpose counterstaining.	500 mL	R03131-74
HARLECO® Fuchsin, Basic Solution	Very diluted solution of carbol fuchsin used as a counterstain in various staining modifications of the Gram Stain. Recommended for Hucker and Stirling methods.	1 L	6039X-75
HARLECO® Fuchsin, Carbol Solution, Ziehl-Neelsen	Ziehl-Neelsen formula. Microorganism stain for acid-fast mycobacteria.	1 L	6051X-75
HARLECO® Fuchsin, Carbol Solution, Kinyoun	Stain formulated specifically for Kinyoun stain technique for acid-fast staining. Does not contain Tergitol®. Addition of heat is optional.	1 L	6033X-75
HARLECO® Methylene Blue Stain Solution, Loeffler's	Aqueous solution for general purpose counterstaining.	500 mL	R03101-74
HARLECO® Methylene Blue, Loeffler's	For general bacteriological staining of gonococcae, lactic acid bacteria and for demonstration of the pole corpuscles of pasteurilla.	1 L	687X-75
HARLECO® Nigrosine Solution, Aqueous	Aqueous saturated solution for negative staining of spirochaetes, bacteria, fungi and with fuchsin for staining bacterial spores. Can also be used as a stain for neutral tissue.	100 mL	R03418-70
HARLECO® Lactophenol Solution	Used in parasitology.	500 mL	R03266-74
HARLECO® Lactophenol, Cotton Blue	Mounting fluid for demonstrating microscopic morphology of fungi.	100 mL	R03465-70



Culture smear, Gram staining



Culture smear, Gram staining

Product	Description	Size	Catalog No.
Dry Dyes and Mixtures*			
HARLECO® Brilliant Green, powder	Used as a component of brilliant green bile media for the selective enrichment and enumeration of E. coli and other fecal coliform organisms in water, milk and other foodstuffs.	25 g, 50 g	162
HARLECO® Crystal Violet, powder	Used for staining bacteria and spores by Gram's method. Same as Gentian Violet Powder, C/N 227.	25 g, 100 g, 1 kg	192
HARLECO® Fuchsin Basic, powder	Used for the staining of mycobacteria (AFB).	1 kg	220
HARLECO® Gentian Violet Powder	Staining bacteria by Gram's method. Same as Crystal Violet, C/N 192.	25 g	227
HARLECO® Giemsa Stain Powder	Used in staining protocols requiring Giemsa.	25 g	228
HARLECO® Leishman Stain Powder	Used for blood, malarial parasites and bone marrow staining.	25 g	252
HARLECO® Malachite Green Oxalate	Used for staining of bacterial polysaccharides and spores. Also used as a contrast stain in the Ziehl-Neelsen procedure.	25 g	258
HARLECO® Methylene Blue Chloride	Used for histological and bacteriological staining and as a constituent of Wright Stain.	25 g, 100 g, 500 g	284
HARLECO® Rose Bengal	Used to detect bacteria in soil samples.	25 g	348
HARLECO® Safranin O	Used in various staining protocols such as Gram staining. Can be used as a cytological counterstain	25 g, 100 g	350
HARLECO® Sudan Black B Powder	Detection of fatty material in bacteria.	25 g	3545

* Harleco® dyes for microscopy are analyzed chemically and provide consistent batch-to-batch performance. These dyes and dye mixtures are certified by the Biological Stain Commission (BSC), which ensures quality through independent testing, according to stringent chemical and performance criteria.

Midas® III-Plus Automated Slide Stainer

The Midas® III-Plus Automated Stainer is designed to work with HARLECO® stains and is flexible enough to adapt to your current staining protocols. It is designed to perform routine hematology and bacteriology staining effortlessly. Since the unit is fully programmable, you can replicate your existing staining techniques to ensure consistent results for your peripheral blood and bone marrow smears, as well as your bacteriological smears. The system uses the dip slide staining technique which ensures uniform staining for every sample and reduces stain consumption up to 50%. This stainer will become the new cornerstone of your laboratory.

Key Features

- Small footprint and low maintenance
- Up to 30 slides or coverslips uniformly stained in minutes
- Medium-throughput, staining up to 1,000 slides per day
- Automatic electronic self-test at start up
- Versatile stainer with 9 user-defined programs each containing up to 29 possible processing steps
- Ideally suited for Wright, Giemsa, Wright-Giemsa, Pappenheim, Hemacolor® and Leishman staining of blood and bone marrow smears
- Ease of use for Gram, Kinyoun, and AFB staining applications

Product	Size	Catalog No.
Midas® III-Plus Automated Stainer	1 PC	64000H-94
10 Position Slide Carrier (New)	1 PC	15251
20 Position Slide Carrier	1 PC	64052-94
20 Position Coverslip Carrier	1 PC	64053-94
30 Position Slide Carrier	1 PC	64052E-94
Vessels & Lids, 8/pk, 300 mL	1 PC	64054W-95
Vessel with Lid, 150 mL (New) (for use with 10 position slide carrier)	1 PC	15250
Water Bath, Recirculating	1 PC	64000WB-94
Water Bath Filters, 2/pk	1 PC	64000WBF-95
Vessel Rack	1 PC	RD11953
Plastic hood enclosure	1 PC	5.06117.0001
Operating Manual	1 PC	64000OP-94
Service Manual	1 PC	64000SM-94
HARLECO® Water, distilled ASTM type II	4 L 20 L	6442-85, 6442-88



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Tissue staining

The majority of the products featured in this brochure belong to the group in in vitro diagnostic (IVD) medical devices. They are classified as being Class I, exempt per US FDA regulations. However some of the products featured in this brochure are not IVD medical devices but are required to facilitate the staining procedure.

Fixation and Processing

Single products used as Fixatives, Tissue processing agents, Mounting Media and Embedding Media and many Stains belong to the group of in vitro diagnostic (IVD) medical devices. According to US FDA regulations that are classified being IVDs, Class I, exempt.

Products included in this brochure are not available in all countries.
Contact your local sales representative or dealer for details.

To place an order or receive technical assistance in the U.S. and Canada, call toll-free 1-800-325-5832

For other countries across Europe and the world, please visit: **SigmaAldrich.com/offices**

For Technical Service, please visit: **SigmaAldrich.com/techservice**

Safety-related Information: **SigmaAldrich.com/safetycenter**

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Lit. No. MS_BR3136EN Ver. 0.0
2018-17981
02/2019