

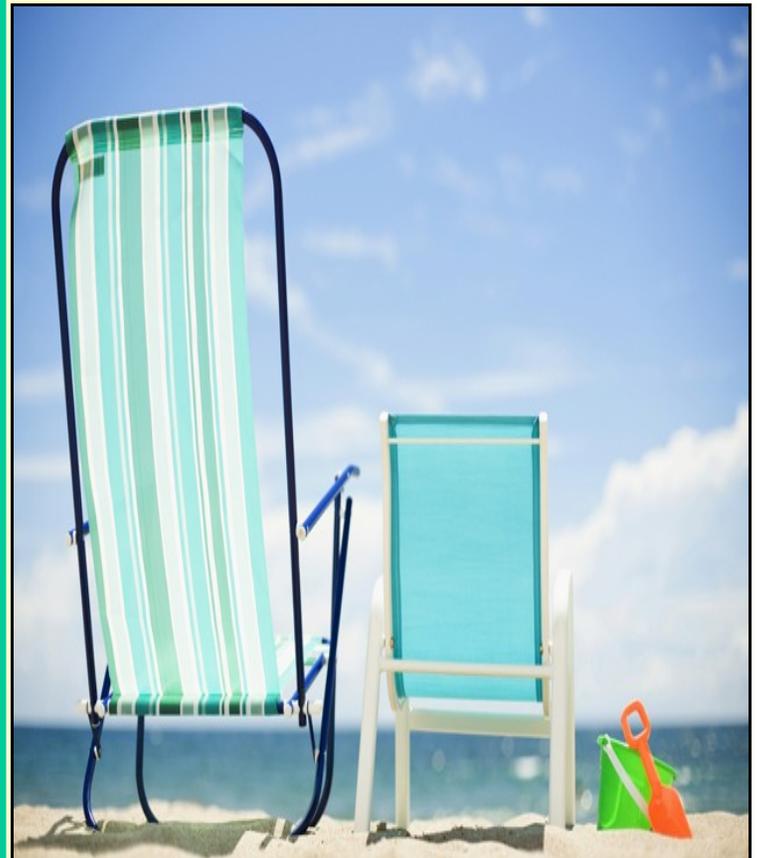


MICROTIME

The Georgia Society for Histotechnology

Inside.....

<i>President's Message</i>	Page 2
<i>Great Meeting</i>	Page 3
<i>Pictures of the Meeting</i>	Page 4 & 5
<i>Coverslipping without Xylene</i>	Page 6-7
<i>Board of Directors</i>	Page 9
<i>Tx Processing without Xylene 2</i>	Page 10 -11
<i>Region III & FL Meetings</i>	Pages 13
<i>GSH Membership Form</i>	Page 15
<i>NSH Membership Form</i>	Page 17



President Letter....



Dear Members;

I would like to say a great big thank you to all of those who attended the spring state meeting at Callaway Gardens. It was a wonderful meeting with good lectures, and workshops and lots of vendors. For those of you, who did not get the renovated rooms, let me apologize to you. Our event manager was very upset as well, since all of you were supposed to have the new rooms.

I was especially pleased with the turnout for the membership meeting and on behalf of the entire Board of Directors we would like to say a great big thank you for your suggestions, your input, and your enthusiasm. As you may or may not know by now we are hosting Region III next year and the membership voted by a very large majority to return to Callaway Gardens for this event. The dates of the event are April 13-15th, 2012.

Callaway Gardens ' renovations will be complete by the end of the summer, and they are very excited to have us coming back and about some great events that are being planned. Please go ahead and make your reservations now so that you can make sure you get a room, since the hotel is already filling up fairly fast. Your credit card will not be charged until you check in and if you have any problems getting reservations please let one of the officers know. The speaker list and program are being worked on at this time. If you know of speakers or workshops that you would like to see, have those individuals sending their information to Carl ASAP.

At last count the membership was somewhere around 150 people and growing daily, so if you know of people who are not members encourage them to join since it is free. The person who brings in the most members in will receive a nice monetary award at next year's meeting. My goal for membership is 300 or more people by this time next year, so let's get it done.

We have a number of new additional board members and you will be introduced to them hopefully by the next issue of the Microtime. I am so grateful to have all of these enthusiastic folks on board helping us to create a better society and organization that can serve you not only now but for years to come. There are some great ideas underway, with a Facebook page and additions to the website. Maybe even Twitter (whatever that is).

I hope that each one of you will be as excited as we are for what lies ahead for us as a state society. We don't really understand what a tremendous shortage there is in our profession, until you try to hire someone. I understand that it took almost 7 months to find someone to fill my job, and I still get daily calls and e-mails from people searching for qualified Histotechnologists.

I hope each of you have a wonderful summer of fun and relaxation with your families. For those of you who are planning to attend NSH in the fall, make your plans early. Have a great summer!

Mike Ayers

President GSH

GSH Annual Meeting

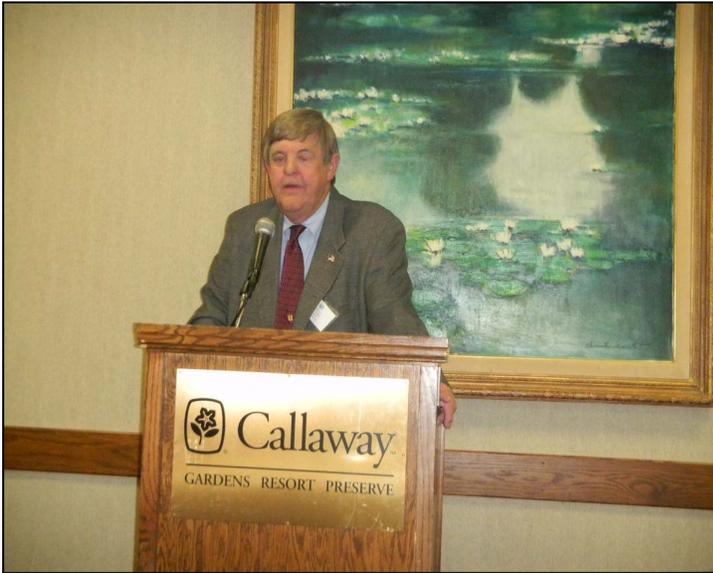
It was a Hail of a Meeting!



Callaway Gardens.

April 13-15th, 2012





GSH or Hell ' s Angels?

What a Great Meeting!



 Callaway Gardens.

Dewaxing and Coverslipping Sections Without Xylene or It's Substitutes

by René J. Buesa, B.Sc. HTL (ASCP) (Ret.) [rjbuesa@yahoo.com]

The efforts to eliminate xylene from histology procedures have always concentrated in its substitution from tissue processing but the histology personnel is more exposed to xylene while staining than while processing.

Dewaxing and coverslipping are the two steps in section staining where xylene remains prevalent constituting a major source of exposure that is seldom addressed when trying to get rid of it.

In the sequence of steps leading to the finished slides the tissues are first dehydrated, then infiltrated with paraffin wax to allow producing the sections that in their turn have to be rehydrated before staining. This requires eliminating the paraffin wax first, hydrating and staining the sections afterwards to finally reverse again the whole sequence dehydrating and clearing them before coverslipping. This is the standard procedure and xylene is almost universally used to dewax and clear as first and final steps, respectively.

Some histolabs using alkanes as xylene substitutes also use them to dewax and clear but sometimes the results are not satisfactory⁽¹⁾ which leads to a simple question: is there a better way to dewax and prepare the stained section to coverslip? The short answer is yes, but it is better to review the standard procedure first.

Preparing the sections to stain is done in a sequence of 2 or 3 xylene baths, 4 or 5 baths of pure ethanol followed by water before staining. If we assign to each paraffin section and area of 1 square inch (6.45 cm²) and an average thickness of 5 µm, with a density of 0.9 g/cm³ there will be a total of 0.58 grams of paraffin to be dissolved every 200 slides requiring to change 4 liters of ethanol and 2 liters of xylene at a cost of almost \$30 per 100 slides.

There has to be a more efficient way of dewaxing and hydrating the sections before staining and using a dishwasher detergent solution is that way. Only a few years ago nobody subjected sections to hot solutions but nowadays immuno-histochemical (IHC) procedures usually start with a heat induced epitope retrieval (HIER) step where the sections are heated at near the water boiling temperature for at least one hour. This procedure is common practice and nobody now thinks that heating a section will have any detrimental effect on it so dewaxing the sections with a hot solution of dishwasher detergent cannot be considered extreme at all.

The procedure is as follows: prepare a 2% (volume to volume) dishwasher solution (DWS) in distilled water. We have used several brands in our validating tests^(1; 2) (Fairy, Persil and Spree) but any reputable commercial brand can be used. Fill two containers with DWS at 90°C and place the slides 1 minute in each, followed by hot running water for 30 seconds and finally in distilled water at room temperature before proceeding to stain with any routine or special procedure.

You have to realize that some IHC autostainers manufactured by Dako, Leica, and Ventana where you introduce the undewaxed sections use soap solutions to dewax them, as is the case of Bond-Dewax® by Leica⁽²⁾.

Using a DWS not only eliminates xylene and ethanol, but is much cheaper because replacing the used DWS will represent a cost of only \$0.04 per 100 slides, which is 750 times cheaper and 4 times faster than following the conventional xylene and ethanol sequence.

So far you have been able to dewax your sections without xylene (and ethanol) but, what about once you have stained the sections?

The standard procedure is dehydrating and clearing the stained sections but there is a better way. After staining you dry the sections in an oven at 60°C for 5 minutes but before that you can either dehydrate them with ethanol (as usual), or wash them in distilled water, or in acetone depending on the staining you use, or your preference. The fundamental change being that you substitute xylene with the oven drying step.

Drying the sections before coverslipping can be considered by many as “anathema” but it can be done ⁽³⁾ and you just have to make sure that the mounting medium is fluid enough, with a consistency similar to that of “baby oil” that is just low density mineral oil.

Coverslipping can be manual but if you use an automated glass coverslipper just make sure that the mounting medium is more diluted than usual. For film coverslippers increase the amount of xylene delivered to attach the film and reduce the film speed by 25 percent.

The only remaining step in the histolab requiring xylene is for cleaning the tissue processor, and that can be eliminated also if you use a 2% aqueous solution of a strong laboratory detergent, one of those used to clean glassware, instead of your used xylene.

Now consider the following: if you use the mixtures of 2-propanol and mineral oil to process tissues, the 2% DWS to dewax, oven dry the stained sections before coverslipping, and clean your tissue processor with a 2% solution of strong glassware detergent, you have a **xylene free laboratory** greatly improving the health safety in your histolab.

Try all these approaches and assure a much healthier environment for you and your staff!

References:

- (1) Buesa, RJ & Peshkov, MV: Histology without xylene. *Ann.Diag.Pathol.*, 2007; 11(5):334-339
- (2) Henwood, AF: The application of heated detergent Dewaxing and rehydration to immunohistochemistry. *Biotechnic & Histochemistry* 09/21/2010; pp5
- (3) Buesa, RJ: Coverslipping without xylene. *Biotechnic & Histochemistry* 2010; 85(4): 269-270

Northside Hospital is looking for a registered Histo Tech to work 3pm– 11:30pm.

We are a busy Hospital located at 1000 Johnson Ferry Road. If interested please contact Carole Fields at carole.fields@northside.com

Or apply on the Northside web site.



C.L. Sturkey Disposable Microtome Knives

- Family owned and operated in Central Pennsylvania
- All products made in the USA
 - Call for free samples
- Unconditional guarantee

www.sturkey.com

800-274-9446

Also available through
Fisher HealthCare

GSH NEWSLETTER RATES

Business Card - \$50

Half Page - \$85

Full Page or Insert - \$125

Make check payable to :

GSH

%Ann Taylor

6645 Goodall Mill Rd.

Macon, GA 31216

BOARD OF DIRECTORS—2011

GSH PRESIDENT

Mike Ayers
Newman, GA
PH: 770-253-7462 - Cell: 678-378-4663
FX: 678-378-4663
Email: lmayers@charter.net

GSH VICE PRESIDENT & GSH EXHIBIT LIAISON:

Wanda Simons HT, (ASCP)
Snellville, GA 30078
PH: (770)-736-2565
FX: (770)-736-2368
Email: wandrous@att.net

GSH TREASURER & BUDGET AND FINANCE CHAIR

Mary Anne Taylor
Macon, GA 31216
PH: 478-788-1286
FAX: 478-788-1286
Email: ataylor1286@gmail.com

GSH SECRETARY & WEB MANAGER

Shirley A. Powell HT(ASCP)HTL, QIHC
Macon, GA 31207
PH: 478-301-2374
FX: 478-301-5489
Email: powell_sa@mercer.edu

GSH MEMBERSHIP CHAIR

Nancy Crane
Lawrenceville, GA 30046
PH: 678-312-4506
PH: 770-963-8958
Email: nscrane@charter.net

GSH AWARDS CHAIR

Terri Brown
Lilburn, GA 30047
PH: 404-845-5423
FX: 404-303-3706
Email: terribrown@bellsouth.net

NSH CEU Liaison

Connie Micko
Stone Mountain, GA 30088
PH: 770-413-2623
Email: cmicko2@hotmail.com

GSH BYLAWS & LEGISLATIVE CHAIR

Larry Fields
PH: (803) 917-4536
Email: gsacrylicdesigns@gmail.com

MICROTIME EDITOR

Carole Fields
Marietta, GA 30067
PH: 404-895-9804
Email: fields932@gmail.com
Email: fields932@gmail.com

GSH EDUCATION CHAIR – PROGRAM COORDINATOR

Carl Sagasser
Albany, GA 31707
PH: 229-317-8974
FX: 229-317-6682
Email: carl.sagasser@darton.edu

GSH SYMPOSIUM REGISTRAR

Harriet Baker
Griffin, GA 30224
PH: 770-228-2721
PH: 770-229-1272
Email: hbaker9824@aol.com

GSH HISTORIAN

Janet Hobbs
Augusta, GA 30912
PH: 706-721-8515
Email: jastewar@mail.mcg.edu
Email: janethobbs@att.net

GSH PUBLIC RELATIONS

Fran Lee Adams
PH: 770-991-8000 5408
FX: 770-991-8689
McDonough, GA 30252
PH : 770-689-6484
Email: frannie5553@yahoo.com

GSH Ed Committee Speaker Liaison

Donna Smith
Lawrenceville, GA 30046
PH: 678-312-4206
FX: 770-882-2219
PH: 404-717-8535 (cell)
Email: dmgoodroe74@yahoo.com

GSH Ed Committee Program Designer

Michael Bourgeois
Smyrna, GA 30082
PH: 404-213-8887
Email: BourgeoisMD@Hotmail.com

Tissue processing without xylene - Part 2: Using 2-propanol and mineral oil

by René J. Buesa B.Sc., HTL (ASCP) (Ret.)

In Part 1 it was shown that "Alkane" and "Terpene" based substitutes either cause health problems also, or produce results less than desirable making them unacceptable substitutes. Other options have to be explored but before doing so it is necessary to review one fundamental aspect of tissue processing.

It seems safe to assume that a tissue fixed correctly can structurally withstand dehydration and infiltration and this is correct up to a certain point. The general cellular structure will be able to remain in place during tissue processing, but dehydration of intracellular spaces and cell components can alter so slightly the relative positions of mitochondria, Golgi apparatus, or endoplasmic reticulum. The spatial dislocations of these organelles are especially evident in transmitted electron microscopy (TEM) work and explain why it is crucial to have a perfect fixation followed by a gradual dehydration and plastic infiltration in TEM work. But, why? What is the physical explanation for this requirement?

All processing reagents have specific solubility coefficients flowing through the tissues at a rate inverse to it: liquids with low solubility (like melted paraffin) flow more slowly than those more soluble (like alcohols). Also low grade alcohols, like 70% ethanol (70EthOL), contains more water than pure alcohol and therefore has greater solubility than 100EthOL which flows more slowly.

Finally there is the gradient effect resulting from exposing cell structures to changing reagents. The gradient is maximal and affects the structures the most when solubility differences are also maximal. If you place fixed tissues directly in 100EthOL it will shrink because the gradient between the water in the tissue (around 80%) and that in 100Ethol (0%) is very large. The gradient is also greater when any two pure substances mix as is the case between 100EthOL and xylene with a solubility gradient of 9 MPa (Mega Pascal) between them.

Reagent flow and solubility gradient are the physical reasons why optimal infiltration is obtained using chemicals with increasing purity during enough time, especially during infiltration. It is necessary to remember that melted paraffin has to enter between all the tissue components to hold them in place when solid, making infiltration the culmination of all previous steps.

Consequently the "ideal" tissue processing method should have small gradients between successive miscible chemicals. The miscibility issue was the xylene initial alleged advantage when introduced because it mixes with both 100EthOL and melted paraffin.

Following the miscibility requirement a new method was developed ^(1; 2) using 2-propanol, also called iso-propanol (IP), which is able to mix with water and melted paraffin. The gradient between pure IP and melted paraffin of high molecular weight is of 9 MPa (Mega Pascal), so intermediate steps with paraffin of low molecular weight were included. Such type of paraffin is called "liquid paraffin" or simply "mineral oil" (MO) and is used in two increasing proportions. The first contains 5 parts of IP and 1 part of MO, with a solubility gradient of only

2 MPa between pure IP and this solution. The second step is IP:MO at 2:1 (2 parts of IP and 1 of MO) with a gradient of only 1 MPa with the precedent step.

Finally the tissues go from (IP:MO at 2:1) to pure MO followed by melted paraffin, with a final gradient of only 1 MPa. This new method using MO between dehydration and the paraffin wax infiltration was tested with 52 types of tissues, followed by 64 histochemical methods, and 115 antibodies with no statistical differences with parallel sections processed with ethanol-xylene ^(1;2) making this IP and MO alternate method completely reliable and an ideal xylene substitute.

After the tissues have been fixed, the general protocol with tissue processors is the following:

Station	Reagent	minutes	temp (°C)
1	70% 2-propanol (70IP)	15	35
2	80% 2-propanol (80IP)	15	35
3	90% 2-propanol (90IP)	15	35
4	95% 2-propanol (95IP)	15	35
5	Pure 2-propanol (100IP)	15	35
6	2-propanol:MO (IP:MO at 5:1)	90	50
7	2-propanol:MO (IP:MO at 2:1)	90	50
8	Pure MO	60	50
9	Paraffin wax	45	58
10	Paraffin wax	20	58
11	Paraffin wax	20	58
12	Paraffin wax	50	58

Note that dehydration with increasing IP concentrations takes 75 minutes only because the "clearing" intermediate solutions (IP:MO at 5:1 and IP:MO at 2:1) complete the dehydration while starting the infiltration with mineral oil or "liquid paraffin". Heat at 50°C in stations 6 and 7 is required to allow IP and MO mixing completely.

Clearing and infiltration (stations 6 thru 12) represent 83% of the whole protocol time assuring complete dehydration and perfect infiltration. Blocks cut excellently regardless of the tissue and any following special procedure can be completed as usual. The method is especially good for fat and hard connective containing tissues like breast, skin, and uterus. Besides that, MO cost is 56% that of xylene.

Mineral oil, the main ingredient in "baby oil" formulas, is absolutely safe and it is very likely you have already used it in skin, and sun blocking lotions. Try this method and you will never abandon it!

- (1) Buesa RJ. 2000. Mineral oil: the best xylene substitute for tissue processing yet? *J.Histotechnol.*, 23(2):143-149
 (2) Buesa RJ, Peshkov MV. 2009. Histology without xylene. *Ann.Diag.Pathol.*, 13(4):246-256



**THE GEORGIA SOCIETY FOR
HISTOTECHNOLOGY**

When

April 13-15, 2012

Where

Calloway Gardens

See You There!



**When You Need it Cold,
We Have the Answer**



Scott Bryant
www.sbryantinc.com
 Mobile: 404-697-9590

Conveyor
Tray System
Mortuary
Refrigerator

End Opening
Telescoping
Mortuary Refrigerator



Side Opening
Telescoping
Mortuary Refrigerator

800.362.8491
www.mopec.com

REGION III & FLORIDA MEETINGS



What an exciting time to be interim VP/vendor liaison of our society as

our membership climbs. I challenge everyone to recruit at least ONE new member and tell everyone about our website and FREE membership. We need every members input as we prepare to host next years NSH Region III meeting back at Callaway Gardens. Every member can contribute by doing two things:

Send us your ideas and "save the date" for April 13-15,2012.

Since our state meeting at Callaway in March I attended the Region III meeting in Nashville and the Florida State meeting in Tampa.

Southern hospitality at its finest awaited me in Nashville. The Tennessee members presented excellent speakers and made us comfortable on the ninth floor of the Hilton Gardens. I personally enjoyed workshops given by our own Lamar Jones and was able to implement some new ideas in my own lab. Tennessee board officers, including new president Michelle Foster, shared their experience planning a Region meeting.

Thank you to Michelle for your continued guidance and to Jennifer Burch for guidance & suggestions with vendors. Vendor support was evident at Region III and at the FSH meeting. We can't thank our vendors enough for their continued generosity during hard economic times. This makes a state meeting all the more appealing. Where else can we get continuing education, meet with our peers, and have fun?

With Florida being a tourist destination you can't go wrong with sunshine and a large group of histotechs. I personally wanted to hear Skip Brown speak and not only sat in his workshop, but enjoyed his company at the awards luncheon. And what an impressive event as they recognized achievements in histotechnology for the past year. As I sat and listened the one phrase that came to mind was "dedication to education". And that is what we all are working toward. So thank you to Tennessee and Florida for delivering southern hospitality, as the members of GSH look forward to hosting Region III next April.

Wanda K Simons

GSH VP/vendor liaison



Automation that enhances patients' lives and yours



Tissue-Tek® Prisma®/ Film® Automated Slide Stainer and Coverslipper



Faster results leave lasting impressions

Delivering quality results in record time means patients get answers sooner and physicians can expedite the initiation of their treatment and recovery.

Faster results also benefit your lab. You can streamline the workload and enjoy more personal time outside the lab.

It's more of what patients desire and what you've come to expect from Tissue-Tek®, the most trusted name in histology automation.

Georgia Rep...

Sharon Wehman sfatl@aol.com

678-462-6349

 **Tissue-Tek® Automation**



GEORGIA SOCIETY FOR HISTOTECHNOLOGY
MEMBERSHIP OR RENEWAL FORM

Please fill out all blanks COMPLETELY - PLEASE PRINT and Mail to:

Nancy Crane, GSH Membership Chair
2356 Ceiba Court
Lawrenceville, GA 30043

Name _____

Home Address _____

Home City _____ ST _____ Zip _____

Home Phone _____

Fax _____

Home Email _____

Employer _____

Work Address - _____

Work City _____ State _____ Zip _____

Work Phone _____ Fax _____

Work Email _____

NSH MEMBER _____ YES _____ NO _____

GSH recommends that you also consider joining NSH in order to be eligible to serve as a representative of GSH in the House of Delegates at the annual Symposium and actively participate in your society. Only NSH members who are also GSH members can serve in the HOD.

*****Date: _____ for year _____ ***** REQUIRED

Membership is free to anyone working in histology in Georgia but you must fill out a form each year to be a member. If you do not live in but work in Georgia, you qualify. If you do not work in Georgia you may still be a non-voting member with other member privileges such as discount rates at meetings.

MEMBERSHIP YEAR IS FROM JANUARY TO DECEMBER

Are you interested in serving on a committee? _____ Do you prefer mail sent to: Home?_ _ Work?_ _

It is very important to notify us of changes in your information as soon as possible so we can keep you informed.

POLY MOUNT

A SYNTHETIC RESIN MOUNTING MEDIA

- Will not turn yellow.
- Air dries in 20 minutes.
- Xylene or Toluene based.
- Spreads rapidly and smoothly.
- Unique self-cleaning pour spout.
- Refractive index is close to glass.
- May also be used as a liquid coverslip.
- Toluene formula compatible with most Xylene substitutes.

HALT

- Stops wrinkles and folds.
- Stops background staining.
- Stops tissue from falling off slides.

This easy and convenient product bonds the tissue to your slide. A special additive helps to virtually eliminate wrinkles and folds from the tissue sections by reducing surface tension in your water bath. Just add a capful of HALT to your water bath, no other adherents are necessary.

*Wash your water bath thoroughly after each use.
Solution must be refrigerated.*

catalog# s2430

available in 16oz, 32oz.

Prefill Containers

Non-Graduated or Graduated Containers

- Polypropylene • Non-Sterile
- 1/2 filled with solution.

**Available in a variety of sizes
Prefilled with solution of choice**

Infiltrating/Embedding Paraffin Prills

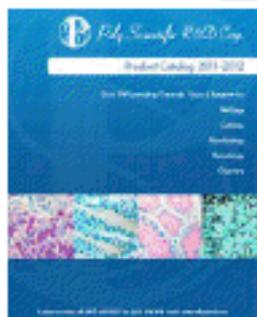
cat# c827

6 x 3lb bags per case

“At last, one paraffin for all your lab needs.”

- An exclusive blend of paraffins and polymers
- Melts at 56-58° C
- Revolutionary prill form melts quickly
- Cuts cleanly down to 3 microns
- Provides excellent tissue support
- Double filtered for your convenience
- Packaged in a resealable bag for easy disposal

**** Material Safety Data Sheets available on website.**



2011-2012

New Catalog Available

Poly Scientific R & D Corp.

70 Cleveland Avenue • Bay Shore, NY 11706

Visit: www.PolyRnD.com

Phone: 800-645-5825 Fax: 631-254-0618

Email: CustServ@PolyRnD.com





2011 MEMBERSHIP APPLICATION

January 1 – December 31

NATIONAL SOCIETY FOR HISTOTECHNOLOGY
10320 Little Patuxent Parkway, Suite 804, Columbia, MD 21044
PHONE: 443-535-4060 FAX: 443-535-4055 EMAIL: Histo@nsh.org
WEBSITE: www.nsh.org

SOURCE: ONLINE

TYPE OF MEMBERSHIP:

PROFESSIONAL STUDENT RETIRED

ARE YOU:

RENEWING YOUR MEMBERSHIP
NEW MEMBER

* Student Members must provide School & Program Director/Supervisor Name

HISTOLOGY SCHOOL/PROGRAM: _____ PROGRAM DIRECTOR/SUPERVISOR: _____

EMAIL OR PHONE #: _____

MEMBER NAME: _____ NICKNAME: _____

WORK ADDRESS:

TITLE: _____

COMPANY: _____

DEPARTMENT/SUITE: _____

ADDRESS: _____

CITY: _____ STATE: _____

ZIP/POSTAL CODE: _____ COUNTRY: _____

WORK PHONE: _____ FAX: _____

WORK EMAIL: _____

HOME ADDRESS:

ADDRESS: _____

CITY: _____ STATE: _____

ZIP/POSTAL CODE: _____ COUNTRY: _____

HOME PHONE: _____

PERSONAL EMAIL: _____

MAIL PREFERENCE: (Please select primary address)

WORK ADDRESS HOME ADDRESS

WORK EMAIL PERSONAL EMAIL

Please Note: All NSH correspondence will be sent to address selected. In addition this address is published in our on-line membership directory.

NSH MEMBER REFERRED BY: _____

STATE HISTOLOGY LICENSE #: _____

MEMBER DEMOGRAPHICS: DATE OF BIRTH: ____/____/____ GENDER: MALE FEMALE

DESIGNATION (Check all applicable Boxes):

HT (ASCP) HTL (ASCP) MT (ASCP) CT (ASCP) SLS (ASCP) QIHC (ASCP) RT ART MLT

MD PhD OTHER _____ NOT CERTIFIED

I WOULD LIKE TO RECEIVE INFORMATION FROM THE FOLLOWING COMMITTEES:

IHC HARD TISSUE VIR HEALTH & SAFETY QUALITY CONTROL OTHER _____

MEMBERSHIP DUES: \$80 (2011 PROFESSIONAL) \$40 (2011 STUDENT/RETIRED)

WOULD LIKE TO PURCHASE MEMBERSHIP PIN (\$10.00)? YES NO THANKS

WOULD LIKE TO CONTRIBUTE TO EDUCATIONAL FUND? NO THANKS YES \$ _____

WOULD LIKE TO CONTRIBUTE TO ADA FUND? NO THANKS YES \$ _____

(Your donation to the Educational Fund helps provide Awards & Scholarships such as Lee Luna Award, etc & ADA will aid in furthering the education of the physically challenged)

PAYMENT INFORMATION: (Please Remit fee with completed application in US Funds to the NSH office) **TOTAL: \$ _____**

A check for the total amount due payable to "NSH" is included with this application. PAID IN CASH/MONEY ORDER

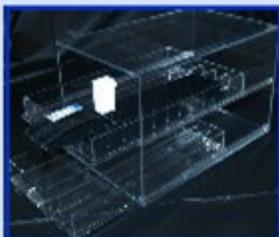
Please charge my VISA, MC or AMERICAN EXPRESS for the total listed above.

Card Holder's Name: _____ Signature: _____

Card Number: _____ Expiration Date: _____

NSH, 10320 Little Patuxent Parkway, Suite 804, Columbia, MD 21044 or FAX (443) 535-4055 or RENEW ONLINE: www.nsh.org

Golden State Acrylic Designs inc



**REFRIGERATOR
STORAGE CABINET**
Item# RDC

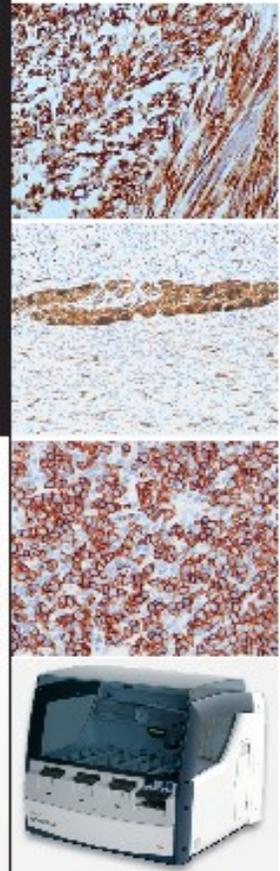
**Immuno Vial Rack,
Small**
Item# IRRS



**Immuno Vial
Refrigerator Cabinet
w/ 2 Racks**



Golden State Acrylic Designs features the Refrigerator Cabinet for Immuno Vial Storage this month. These are adaptable to BioCare, Dako, and Leica Immuno Reagent Vials. Call (803) 917-4536 for pricing or visit our website at www.gsadacrylic.com. Our email is gsadinc@gmail.com.



Simply Brilliant!

Bond™ – fully integrated IHC and ISH

Boost productivity, enhance quality, achieve consistently brilliant results – the fully integrated Bond system is the complete IHC and ISH solution. Bond reagents, automation and connectivity are designed together, work brilliantly together, and deliver all the benefits.

- Streamline your workflows with continuous processing, full automation and an LIS option
- Simplify your set up with Bond ready-to-use antibodies (no mixing, titration or dilution)
- Expand your repertoire by utilizing the full range of Novocastra™ antibodies
- Eliminate repeats and enjoy first-time quality with the Coverite™ staining environment

Bond – simple to use, brilliant results... simply brilliant

Contact Sandy Schmitz at 404-697-5262 or Willie Spear at 404-660-8104 for more information.

Georgia Rep.....

Sandy Schmitz

404-697-5262

Living up to Life

Leica
MICROSYSTEMS



DURAEDGE® Microtome Blades



The DuraEdge® microtome blades are manufactured to the highest standards for sharpness, consistency, and durability. The special proprietary manufacturing process for hardened stainless steel ensures the quality of each finely honed and polished blade, to provide you with a flaw-free cutting edge. Capable of sectioning tissue for biopsies in ultra thin sections, DuraEdge® blades give you unsurpassed precision in the lab. Made in the USA, DuraEdge® blades utilize a proprietary coating technology that reduces friction, and helps to eliminate striations and compression.

DURAEDGE®, Low Profile Microtome Blades

Disposable, Stainless Steel, PTFE Coated, 50/pkg

Encore™ Low Profile Blades	Catalog #CUT7380
Green Top Low Profile Blades	Catalog #CUT7223
Blue Top Low Profile Blades	Catalog #CUT3205

DURAEDGE®, High Profile Microtome Blades

Disposable, Stainless Steel, Coated, 50/pkg

Red Top High Profile, PTFE Coated	Catalog #CUT3210
Brown Top High Profile, Ceramic Coated	Catalog #CUT7203

407 INTERCHANGE • MCKINNEY, TEXAS 75071
 972.436.1010 (LOCAL PHONE) • 800.442.3573 (TOLL FREE)
 972.436.1369 (FAX) • WWW.STATLAB.COM

Carole Fields, HT (ASCP)

962 Hickory Leaf Ct.

Marietta, GA 30065

TO:



SOUTHEAST PATHOLOGY INSTRUMENT SERVICE, INC

CRYOSTATS, MICROTOMES, TISSUE PROCESSORS, STAINERS,
COVERSLIPPERS, EMBEDDING CENTERS, CASSETTE
AND SLIDE PRINTERS

MICROM

Leica

Thermo
SCIENTIFIC



Factory Trained

Reasonable Rates
Professional Service

We Buy and Sell Used
Instruments

Tel: 843-588-2559

Fax: 843-588-9456

P.O. Box 183 Folly Beach, SC 29439

www.southeastpathology.com