

# Bradley Products, Inc.

Manufacturers of

## The Davidson Marking System<sup>®</sup>

---

Dear Customer:

P.O. Box 201405  
Bloomington, MN  
55420

Phone:  
800-325-7785

Fax:  
952-881-1873

E-mail:  
dms@bradleyproducts.com

Internet:  
www.bradleyproducts.com

This MSDS (Material Safety Data Sheet) contains the latest information relating to our product. Please discontinue using any former Bradley Products, Inc. MSDS for this product. The format of this MSDS has changed substantially from previous versions and has been modified to follow the ANSI recommended 16 section format. It continues to be prepared in accordance with the OSHA Hazard Communication Standard (29CFR 1910.1200). Please:

- Review this MSDS and ensure you understand and comply with its content.
- Inform all employees and other users of the information contained in this MSDS before handling the product.
- Bradley Products updates MSDSs when substantial new information is obtained. Newly modified MSDSs should be forwarded to all downstream users.

This MSDS contains information which may be helpful for you to comply with certain regulations and laws. It is not all inclusive information and could not be. Only you are in a position to determine what legal and other requirements are associated with the use of this product in your particular process and operation. It is your obligation to understand and comply with all information contained in this MSDS as well as all applicable laws, rules and regulations relating to your handling, use, storage and processing of this material.

If you want additional copies of this MSDS, we are happy to provide them to you, at no charge, via mail, fax, e-mail, or you can download a PDF copy from our web site. If you have questions or desire additional information in the handling, storage, use, or disposal of this product, please contact us.

Sincerely,  
Bradley Products, Inc.

***Important Note: The Davidson Marking System dyes, manufactured by Bradley Products, Inc. are not intended for use on a living patient. These dyes are only intended for use on excised tissues.***



*The original  
tissue marking system  
for a variety of  
applications  
requiring the  
orientation of  
tissue specimens in  
medical laboratories.*



**Bradley Products, Inc.**  
**MATERIAL SAFETY DATA SHEET**



**Product: Item #1163-5 Davidson Marking System® Blue Dye 2 oz.**

**Product: Item #3408-5 Davidson Marking System® Blue Dye 8 oz.**

Effective Date: July 11, 2006

MSDS # 00105, Page 1 of 4

Bradley Products, Inc. encourages safe handling of this product. To promote safe handling, each recipient should: 1) Notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety; 2) Furnish this same information to each of its customers for the product; and 3) Request its customers to notify their employees, customers and other users of the product of this information.

**Section I – Product and Company Information**

**1.1 PRODUCT IDENTIFICATION**

Product: Item #1163-5 Davidson Marking System® Blue Dye 2 oz.

Product: Item #3408-5 Davidson Marking System® Blue Dye 8 oz.

HMIS Ratings: Health - 1 Flammability - 0 Reactivity - 0

**1.2 COMPANY IDENTIFICATION**

Bradley Products, Inc.

P.O. Box 201405

Bloomington, MN 55420

e-mail: [dms@bradleyproducts.com](mailto:dms@bradleyproducts.com)

web site: [www.bradleyproducts.com](http://www.bradleyproducts.com)

Phone: 952-881-1430

Toll-free: 800-325-7785

Fax: 952-881-1873

**Section II – Composition – Right to Know**

<u>Product</u>	<u>CAS #</u>	<u>Product</u>	<u>CAS #</u>
Water	7732-18-5	Ethandionic Acid	144-62-7
Pigment Blue preservative	proprietary 111-30-8		

**Section III – Hazardous Identification and Health Effects**

**3.1 EMERGENCY OVERVIEW**

**Appearance:** Blue  
**Physical State:** Liquid  
**Odor:** None  
**Hazards:** Irritating to skin and eyes.

**3.2 POTENTIAL HEALTH EFFECTS**

**Effects of Single Acute Overexposure**

**Inhalation:** Undiluted liquid does not present a significant inhalation hazard.  
**Eye Contact:** Contact with eyes may result in an irritation with burning and stinging.  
**Skin Contact:** Contact with skin may result in an irritation.  
Persons with known aldehyde sensitization may experience a rash.  
**Ingestion:** See Chronic, Prolonged or Repeated Overexposure comments below:

**Chronic, Prolonged or Repeated Overexposure**

Repeated ingestion of large quantities of the undiluted liquid can result in chelation of calcium in the body causing hypocalcemia, which can produce severe disturbances in the actions of renal, cardiac, and nervous tissues.

**3.3 POTENTIAL ENVIRONMENTAL EFFECT**

See Section XV - Regulatory Information



Bradley Products, Inc.  
**MATERIAL SAFETY DATA SHEET**



**Product: Item #1163-5 Davidson Marking System® Blue Dye 2 oz.**

**Product: Item #3408-5 Davidson Marking System® Blue Dye 8 oz.**

Effective Date: July 11, 2006

MSDS # 00105, Page 2 of 4

**Section IV – First Aid Procedures**

**4.1 INHALATION**

Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

**4.2 EYE CONTACT**

Immediately wash eyes with running water for 15 min. If irritation develops, consult a physician.

**4.3 SKIN CONTACT**

Wash affected areas with soap and water. Remove and launder contaminated clothing before reuse. If irritation develops, consult a physician.

**4.4 INGESTION**

If swallowed, dilute with water and induce vomiting. Never give fluids or induce vomiting if victim is unconscious or having convulsions. Get immediate medical attention.

**4.5 NOTES TO PHYSICIAN**

No information currently available.

**Section V – Fire and Explosion Data**

**5.1 FLAMMABLE PROPERTIES**

**Flash Point (Test Method):** >212°F

**Autoignition Temp:** N/A

**Flammability Limits in Air (% by Vol):** Lower: N/A Upper: N/A

**5.2 EXTINGUISHING MEDIUM**

Use powder, alcohol-resistant foam, water in large amounts, carbon dioxide.

**5.3 EXTINGUISHING MEDIUM TO AVOID**

No information currently available.

**5.4 SPECIAL FIREFIGHTING PROCEDURES**

No special procedures required.

**5.5 SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS**

No special equipment required.

**5.6 UNUSUAL FIRE AND EXPLOSION HAZARDS**

None.

**5.7 HAZARDOUS DECOMPOSITION PRODUCTS**

None.

**Section VI – Accidental Spill / Leak Procedures**

**Steps to be taken if material is released or spilled:**

Contain and collect spilled product. Dispose in accordance with Federal, State, and Local regulations. Dispose of empty containers by crushing or whatever means will prevent unauthorized reuse.

**Personal Precautions:**

See Section VIII - Special Protection

**Environmental Precautions:**

Do not flush to drain.



**MATERIAL SAFETY DATA SHEET**



**Product: Item #1163-5 Davidson Marking System® Blue Dye 2 oz.**

**Product: Item #3408-5 Davidson Marking System® Blue Dye 8 oz.**

Effective Date: July 11, 2006

MSDS # 00105, Page 3 of 4

**Section VII – Handling and Storage**

**7.1 HANDLING**

**General Handling**

Keep container closed. Loosen closure cautiously before opening. Store in a cool, well ventilated place away from incompatible materials such as strong oxidizing agents, hot strong mineral acids and strong alkalis.

**Ventilation**

General room ventilation is expected to be satisfactory if this material is kept in covered equipment or containers. Local exhaust use is recommended.

**7.2 STORAGE**

Temperature: Ambient Storage Pressure: Atmospheric

**Section VIII – Exposure Controls and Personal Protection**

**8.1 EXPOSURE LIMITS**

No information currently available.

**8.2 PERSONAL PROTECTION**

None required for normal product use. Undiluted liquid will stain clothing and surfaces. Protection against staining may be desired.

**8.3 ENGINEERING CONTROLS**

None required for normal product use.

**Section IX – Physical and Chemical Properties**

Physical State:	Liquid	Freezing Point:	32°F
Appearance:	Blue	Specific Gravity (g/ml):	1.0
pH:	Neutral	Vapor Pressure:	19.8 mmHg at 22°C
Solubility in Water:	miscible	Vapor Density:	1. Air = 1
Odor:	None	Evaporation Rate:	Similar to water.
Volatiles By Weight:	57-61%	Melting Point	ND
Boiling Point:	>212°F		

**Section X – Stability and Reactivity**

**10.1 STABILITY / INSTABILITY**

This product is stable.

**Conditions to Avoid:** N/A

**Chemical Incompatibility:**

Mixing this product with strong alkalis, hot strong mineral acids, and strong oxidizing agents can cause product decomposition leading to release of ammonia and hydrogen cyanide gas in low concentrations.

**10.2 HAZARDOUS POLYMERIZATION**

Does not occur.

**Hazardous Decomposition Products:** None

**Conditions to Avoid:** No information currently available.

**10.3 INHIBITORS / STABILIZERS**

No information currently available.

**OTHER:**

Corrosive to Metal: No Oxidizer: No



Bradley Products, Inc.

**MATERIAL SAFETY DATA SHEET**



**Product: Item #1163-5 Davidson Marking System® Blue Dye 2 oz.**

**Product: Item #3408-5 Davidson Marking System® Blue Dye 8 oz.**

Effective Date: July 11, 2006

MSDS # 00105, Page 4 of 4

**Section XI – Toxicological Information**

**Toxicity to Animals:**

475 mg/kg oral-rat (male), 375 mg/kg oral-rat (female), LD50 - ethanedioic acid

20 gm/kg skin-rabbit (not lethal)-ethanedioic acid

0.82 g/kg oral-rat, LD50 - preservative

0.64 g/kg skin-rabbit LD50 - preservative

**Chronic Effects on Humans:**

No known effects for undiluted liquid material mixture. Ethanedioic acid component can cause kidney damage by removal of calcium from the blood and obstructing renal tubules.

**Section XII – Ecological Information**

**Ecotoxicity:** N/A

**BOD5 and COD:** N/A

**Products of Biodegradation:** Products of biodegradation are less toxic than the product itself.

**Section XIII – Disposal Considerations**

**13.1 WASTE DISPOSAL METHOD**

Dispose in accordance with Federal, State, and Local regulations.

**Section XIV – Transport Information**

**14.1 U.S. DOT**

No information currently available.

**Section XV – Regulatory Information**

**TCSA:** Components of this product are listed on the TSCA Inventory.

**SARA Title III:** Components of this product are listed under this statute.

**CERCLA:** Components of this product are not listed under this statute.

**Section XVI – Other Information**

**16.1 AVAILABLE LITERATURE AND BROCHURES**

Additional product safety information on this product may be available and may be obtained by calling Bradley Products, Inc. or visit the web site at [www.bradleyproducts.com](http://www.bradleyproducts.com)

**16.2 SPECIFIC HAZARD RATING SYSTEM**

No information currently available.

**16.3 RECOMMENDED USES AND RESTRICTIONS**

For industry use only.

**16.4 REVISION**

Version: 2

Revision: July 11, 2006

---

While Bradley Products, Inc. (BPI) believes the data set forth herein are accurate as of the date hereof, BPI makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon, such data are offered solely for your consideration, investigation and verification. Since the use of this information and the conditions of the use of the product are not under the control of BPI, it is the user's obligation to determine conditions of safe use of the product.



# Bradley Products, Inc.

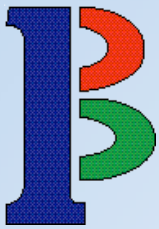
P.O. Box 201405, Bloomington, MN 55420 U.S.

Phone: 952-881-1430 or toll-free from US & Canada: 800-325-7785 Fax: 952-881-1873  
e-mail: msbdms@mail.com Internet: www.bradleyproducts.com

## The Davidson Marking System® Products

Prices Effective January 1, 2005

<b>ITEM #</b>	<b>DESCRIPTION</b>
2401	Original Davidson Marking System 5-Color Set Includes 5 – 2 oz. bottles of tissue marking dye (1 ea. of green, yellow, black, red and blue) in a holding tray with 50 applicator sticks and instructions.
2406	Davidson Marking System 6-Color Set Includes 6 – 2 oz. bottles of tissue marking dye (1 ea. of green, yellow, black, Red, blue and orange) in a holding tray with 50 applicator sticks and instructions.
2403	Davidson Marking System 3-Color Set Includes 3 – 2 oz. bottles of tissue marking dye (please choose your own colors) in a holding tray with 50 applicator sticks and instructions.
5364	Davidson Cryocup System Includes 4 Cryocups, 1 Cryocup holder and instructions.
6601	Davidson Small Specimen Kit Includes 3 – 1 oz. bottles of small specimen dye (1 ea. of green, red and blue) in a holding tray with 1 packet of 250 cassette paper and instructions.
5360	Cryocup (one cup only)
5361	Cryocup Holder
1163-1	2 oz. bottle of green tissue marking dye
1163-2	2 oz. bottle of yellow tissue marking dye
1163-3	2 oz. bottle of black tissue marking dye
1163-4	2 oz. bottle of red tissue marking dye
1163-5	2 oz. bottle of blue tissue marking dye
1163-6	2 oz. bottle of orange tissue marking dye
3408-1	8 oz. bottle of green tissue marking dye
3408-2	8 oz. bottle of yellow tissue marking dye
3408-3	8 oz. bottle of black tissue marking dye
3408-4	8 oz. bottle of red tissue marking dye
3408-5	8 oz. bottle of blue tissue marking dye
3408-6	8 oz. bottle of orange tissue marking dye
1873	5-Dye Holding tray
1866	6-Dye Holding tray
1833	3-Dye Holding tray
8553	500 Wooden Applicator Sticks (10 packs of 50)
8554	Brush Caps for 2 oz. bottles (bag of 10)
8555	250 Tapered end cotton tipped applicator sticks (10 bags of 25)
8556	250 Round end cotton tipped applicator sticks (10 bags of 25)
6605	Refill packet of 500 cassette papers for The Davidson Small Specimen Kit



# Bradley Products, Inc.

Since 1984, Manufacturers and Distributors of

## THE DAVIDSON MARKING SYSTEM<sup>®</sup>



*The original tissue marking system  
for a variety of applications  
requiring orientation of  
tissue specimens*

**NEW!**

### Davidson Cryocup System<sup>®</sup>

**NEW!**

### Davidson Small Specimen Kit<sup>™</sup>



## Product Brochure

New Items, New Pricing and  
Ordering Information



# THE BRADLEY PRODUCTS

## FAMILY OF PRODUCTS FOR THE MEDICAL LABORATORY

### The Davidson Cryocup System®

**Item # 5364**  
4 Cryocups  
and 1 holder

**Item # 5361**  
Cryocup  
holder

16.5" tall  
for easy  
immersing  
in liquid  
nitrogen

Accepts standard chucks  
(chuck not included)

**Item # 5360**  
Cryocup



### The Davidson Small Specimen Kit™

**Item # 6601**  
1 oz. green, red &  
blue dyes in wood  
tray, with 250  
cassette papers

not for use as  
margin marking  
dyes

**Item # 6605**  
500 cassette  
papers  
2.25" by 3.25"



### The Davidson Marking System®

**Item #2401** ( 2 oz. Green, Yellow,  
Black, Red, Blue)

complete with 50 applicator sticks  
and instructions



**Item #2406** ( 2 oz. Green, Yellow,  
Black, Red, Blue, Orange)



### Replacement Tissue Dyes for the Davidson Marking System®

2 oz. (59 ml) Dyes

**Item # 1163-1** Green  
**1163-2** Yellow  
**1163-3** Black  
**1163-4** Red  
**1163-5** Blue  
**1163-6** Orange

Individual two-ounce  
(59 ml) bottles of tissue  
dye with instructions.

**Item # 3408-1** Green  
**3408-2** Yellow  
**3408-3** Black  
**3408-4** Red  
**3408-5** Blue  
**3408-6** Orange

Individual eight-ounce  
(237 ml) bottles of tissue  
dye with instructions.

### Applicator Sticks & Brush Caps

Brush caps fit our 2 oz. bottles and are sold in bags of 10.

**Item # 8554** 10 brushcaps

### New! Cotton Tipped Applicator Sticks

6" in length — sold in lots of 250

**Item # 8555** 250 tapered end cotton tip

**Item # 8554** 250 rounded end cotton tip

### Wood Holding Trays



type of wood  
may vary

**Item #1866** 6-dye tray

**Item #1873** 5-dye tray

for 2 oz. bottles of  
Davidson Marking System® dyes

**Item # 8553** 500 applicator sticks

Plain wood applicator sticks are 5.75" in length, and are  
sold in packages of 500 (10 bags of 50 each).



# To Order Call

## 800-325-7785

Or, you may place your  
Purchase Order by:

- **Fax:**  
952-881-1873
- **Mail:**  
Bradley Products, Inc.  
P.O. Box 201405  
Bloomington, MN 55420
- **Internet:**  
www.bradleyproducts.com
- **Phone:**  
952-881-1430  
or toll-free at 800-325-7785

Payment may be made by:

- **Check** drawn on a U.S. bank
- **Credit Card**  
(VISA, MasterCard and Discover cards are accepted.)
- **Electronic Funds Transfer**  
(International customers are responsible for bank charges incurred en route.)

**Terms:**  
**Net 30 Days**

Federal I.D. # 41-0979462

## **THE DAVIDSON MARKING SYSTEM**

New Pricing Effective May 1, 2001

### **NEW ITEMS!**

<u>Item #</u>	<u>Description</u>
	<b>The Davidson Cryocup System<sup>®</sup></b>
5364	Complete Cryocup System (4 cryocups, 1 holder)
5360	Cryocup only
5361	Cryocup holder only
	<b>The Davidson Small Specimen Kit<sup>™</sup></b>
6601	Set of green, red & blue 1 oz. bottles with applicator caps, in wood holding tray, 1 packet of 250 cassette papers
6605	Refill packet of 500 cassette papers

### **DAVIDSON MARKING SYSTEM<sup>®</sup> PRODUCTS**

	<b>The Davidson Marking System<sup>®</sup></b>
2401	Original 5-color System
2406	6-color System (all 6 colors)
	<b>Individual Two-Ounce Dyes</b>
1163-(x)	2 oz. dye (each color)
	<b>Eight-Ounce Refill Dyes</b>
3408-(x)	8 oz. dye (each color)
	<b>Wood Holding Trays (no dyes)</b>
1866	6-dye Tray
1873	5-dye Tray
	<b>Applicator Sticks &amp; Brushes</b>
8553	Plain wood applicator sticks (500)
8554	Brush Caps for 2 oz. bottles (10)
8555	Tapered end cotton tipped app. sticks (250)
8556	Round end cotton tipped app. sticks (250)

### **NOTE: Shipping Charges to be "Prepay and Add" beginning 5/1/2001**

Beginning May 1, 2001 we will be changing from a flat shipping charge to a "prepay and add" system, with UPS Ground as our standard service. UPS Next Day, Second Day, 3rd Day, et al will continue to be an available option. **Outside of the United States**, our shipping and handling charge is **\$9.00 per order plus shipping charges**. Our International packages are shipped via UPS Worldwide Express, Expedited or Standard (Canada only).

## Dear Colleague,

It has now been over 17 years since Bradley Products, Inc. introduced The Davidson Marking System®. These high quality tissue marking dyes including green, yellow, black, red, blue and orange continue to enjoy wide acceptance in hospitals, clinics and research facilities around the world.

These dyes are visible, reliable and safe. The dyes were originally developed and continue to have importance for orienting tissues. Their major application continues to be marking peripheral tumor or surgical margins. By applying one dye to the superior border, another to the inferior border, etc., one can identify the location of tumor or other pathology within a specimen. This has obvious use for Microscopically Oriented Histologic Sections (MOHS), a technique which is now being used increasingly in tumor surgery.

The dyes are also used to process multiple specimens in a single cassette. Specimens are marked with different colors, processed together, and then are all sectioned and stained on a single slide. This is both efficient and economical. The specimens retain their marking colors and so are easily distinguished.

**Now, Bradley Products is introducing our newest products for the medical laboratory—the Davidson Cryocup System® and the Davidson Small Specimen Kit™.**

The **Davidson Cryocup System®** will revolutionize frozen section processing, greatly simplifying and speeding up the preparation of specimens. By immersing the loaded cryocup holder in liquid nitrogen, freezing is completed in seconds rather than minutes. The chuck and specimen are easily removed from the cryocup, ready for the microtome. Its simple, intuitive design provides a flat specimen which offers a usable initial cut by traditional microtome methods.

The **Davidson Small Specimen Kit™** solves the increasingly common problem of tracking small specimens during histologic preparation. The unique colors mark the tissue during fixation and embedding, reducing small specimen loss and improving ease and efficiency.

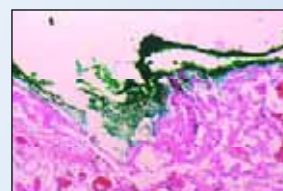
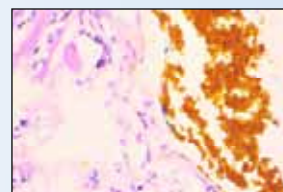
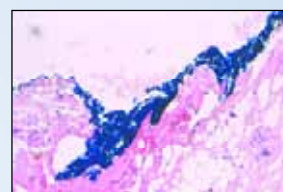
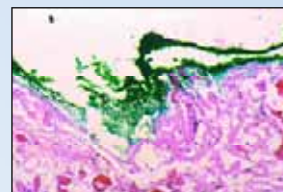
These two new products have been developed jointly by Bradley Products and myself in response to needs identified by ourselves and others in the medical laboratory community. They are available immediately from Bradley Products, Inc.

As always, I appreciate the letters sent to me describing issues, uses and concerns regarding our products, and strongly encourage that communication.

Sincerely,

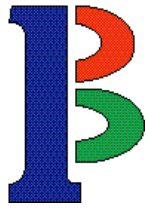
Terence Davidson, M.D.  
Professor of Head and Neck Surgery  
University of California at San Diego  
200 W. Arbor Dr., San Diego, CA 92103-8895  
E-mail: msbdms@mail.com

### Lab Slides of Davidson Marking System® Dyes in Use



**Caution:**  
These dyes are permanent. Never apply these dyes to a living patient. Only use them on tissue that has been removed.

 **Bradley Products, Inc.**  
P. O. Box 201405 Bloomington, MN 55420  
phone: 952-881-1430 toll-free: 800-325-7785 fax: 952-881-1873  
e-mail: msbdms@mail.com internet: www.bradleyproducts.com



# INSTRUCTIONS FOR THE USE OF THE DAVIDSON MARKING SYSTEM®

BRADLEY PRODUCTS, INC. — P.O. BOX 201405 — BLOOMINGTON, MN 55420  
(952)-881-1430, (800)-325-7785, or fax (952)-881-1873



The Davidson marking dyes are used to mark and orient surgical and other tissue specimens submitted for histopathology.

**Never apply any of the dye materials to a living patient. Only use them on tissue which has been removed. These are pigments which if placed in the living tissue will cause permanent coloration.**

There are a variety of other uses for these dyes. None should be tried without appropriate laboratory investigation first.

The normal application of these dyes is to mark surgical tissue margins. The dyes are most effective when applied to fresh tissue, but work well when applied to tissues already fixed in formalin. Fresh tissue should be patted dry. Fixed tissues should be wiped gently to remove the fluids covering the tissue surfaces. The dyes can be applied in a variety of fashions. Many have found it useful to use wooden orange sticks. The stick is dipped into the dye, the orange stick is scraped along the bottom, excess fluid is removed from the stick by touching it to the top of the bottle and the side of the stick is applied to the appropriate tissue margin. If large surfaces are to be dyed, a cotton-tipped applicator is often useful. This too can be dipped into the dye and then the dye painted on the tissue surface.

**ALWAYS SHAKE THE BOTTLE PRIOR TO USE.**

The dyes require 2 to 5 minutes to bond to the tissue surface and should be left alone for this period of time. It is not necessary to dry the tissue (such as with a hair dryer). Simply allowing them to sit in the open air is sufficient. The tissue can then be placed in a cassette and put in formalin for permanent fixation or can be placed on a chuck and prepared for frozen section. Only small amounts of dye are necessary for effective marking.

#### Note on Processing Fatty Tissue

Adherence of marking dyes to fatty tissue, especially for frozen sections, can be a challenge. A recent observation by Brian Datnow, M.D., a pathologist at UCSD, improves this issue. The tissue surface can be defatted with acetone prior to dye application. Squirt or spray a little acetone from a squeeze bottle onto the tissue surface. Pat dry and then apply the dyes and process in the usual fashion, both for frozen and permanent sectioning. This is especially effective for breast and subcutaneous tissues.

**AFTER USE, THE CAPS SHOULD BE KEPT ON THE BOTTLES, FOR WHEN THE MATERIALS DEHYDRATE THEY WILL BECOME INEFFECTIVE. DO NOT DILUTE OR ATTEMPT TO RECONSTITUTE THE DYES.**

The following represents a typical MOHS marking application. Imagine a 2cm diameter circular piece of skin removed in the excision of a skin cancer (as noted in the illustration below). The tissue is cut into 4 appropriate-sized pieces and prepared for frozen section. The pathologist maintains precise orientation for each piece of tissue. The dyes are applied to the various tissue surfaces and a map is made documenting this application and orientation. Different symbols are used for each color. It is best to develop a consistent set of symbols. Commonly used symbols are shown in the figure below.

An alternate application system is to put an ounce of dye into a small plastic squeeze bottle such as those that contain oil for oil immersion microscopy. The dye can then be placed on the tissue simply by squeezing the bottle and rubbing the tip of the spout along the tissue.

The principal application for the marking dyes is to assist in the orientation of surgical specimens. While the dyes are useful in marking the surface of any surgical specimen, many have found the multiplicity of colors superior to a single color. There appears to be a wide variation in color preference, in part due to personal preferences, and in part due to variability in the adherence of the dyes to fixing chemicals and techniques, as these vary from one laboratory to another.

Another interesting application for the multi-color marking dyes is the ability to process multiple specimens in a single cassette. For example, if several skin tags are removed and one chooses to examine all of them microscopically, each can be dyed a different color, all placed in a single cassette, and processed as a single specimen. The cost savings is obvious. Before using the dyes for this application, each laboratory should validate the consistency of the dyes in their own institution. While it seems prudent to use this concept on multiple benign skin lesions where the probability of malignancy is very small, it would not seem wise to use this application to process specimens with a high probability of malignancy.

Surely there are many interesting and useful applications for these dyes. Each new application must be carefully explored prior to general recommendation. If questions, problems, or ideas arise, I would be interested in your comments.

Terence M. Davidson, M. D.  
 UCSD Medical Center  
 200 Arbor Street  
 San Diego, CA 92103-8895

