

Instructions for Use

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.

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. Many have found it useful to apply the dye using wooden applicator sticks. The stick is dipped into the dye, excess fluid is removed from the stick by touching it to the top of the bottle and the dye is applied to the appropriate tissue margin. If large surfaces are to be dyed, a cotton-tipped applicator is often useful. The 3cc Mini dyes have an applicator tip for applying the dyes directly to the tissue, or a stick may be used. Brushes are also available to apply dye to larger specimens.

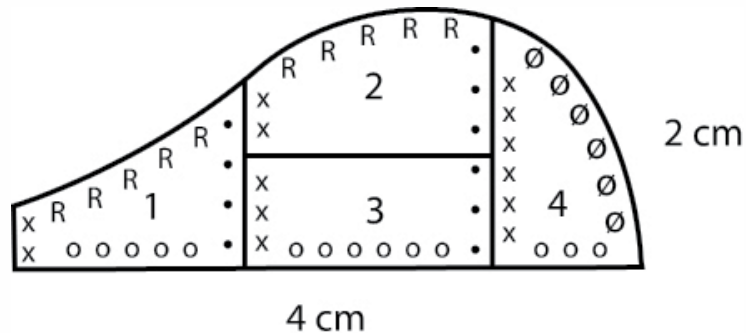
ALWAYS shake the bottle prior to use.

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.

After use, the caps should be kept on the bottles.
When the materials dehydrate they will become ineffective.
Do not dilute or attempt to reconstitute the dye.

The illustration below represents a typical MOHS marking application. Imagine a 2cm diameter piece of skin removed in the excision of a skin cancer. 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.

Color Legend	
Black	---
Blue	...
Green	X X X
Orange	Ø Ø Ø
Red	R R R
Yellow	o o o



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.

Another 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 are obvious. Before using the dyes for this application, each laboratory should validate the consistency of the dyes in their own institution.

While the principal application for the marking dyes is to assist in the orientation of surgical specimens, surely there are many interesting and useful applications for these dyes. 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.

If questions, problems, or ideas arise, we would be interested in your comments.

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