
An Aromatics-Free Hydrocarbon Solvent / Diluent for Laropal® A 81 and Gamblin Conservation Colors, cont'd.

References

- De la Rie, E.R, Quillen Lomax, S., Palmer, M., Deming Glinsman, L., Maines, C.A. 2000. 'An investigation of the photochemical stability of urea-aldehyde resin retouching paints: removability tests and colour spectroscopy.' In Tradition and Innovation: Advances in Conservation. Contributions to the IIC Melbourne Congress, 10-14 October 2000. Editors Roy, A. and Smith, P. London: International Institute for Conservation. 51-59.
- Horie, V. 2010. Materials for Conservation. London/New York: Routledge.
- Laurence, C., Nicolet, P., Tawfik Dalati, M., Abboud, J.-L.M., and Notario, R. 1994. 'The empirical treatment of solvent-solute interactions: 15 years of π^* .' Journal of Physical Chemistry 98: 5807-16.
- Machado, V.G., Stock, R.I., and Reichardt, C. 2014. 'Pyridinium N-phenolate betaine dyes.' Chemical Reviews 114(20): 10429-10475.
- Marcus, Y. 1998. The Properties of Solvents. Chichester: John Wiley & Sons.
- Phenix, A. 2002. 'The swelling of artists' paints in organic solvents Part 2 - comparative swelling powers of selected organic solvents and solvent mixtures.' Journal of the American Institute for Conservation 41: 61-90.
- Phenix, A. 2013. 'Effects of organic solvents on artists' oil paints.' In proceedings of symposium New Insights into the Cleaning of Paintings (Cleaning 2010). Editors M.F. Mecklenburg, A.E. Charola and R.J. Koestler. Smithsonian Institution Scholarly Publications. 69-76.
- Reichardt, C. and Welton, T. 2011. Solvents and Solvent Effects in Organic Chemistry. 4th edn. Weinheim: Wiley-VCH.
- Smith, G.D., and R. Johnson. 2008. 'Strip 'teas' - solubility data for the removal (and application) of low molecular weight synthetic resins used as inpainting media and picture varnishes.' WAAC Newsletter 30(1): 11-19.

In mathematics you don't understand things,
you just get used to them.

Johann von Neumann

A New Conservation Tool

The conservators at Birmingham Museums Trust have been using thorns to clean decorative metalwork, such as vesta cases, coins, buttons, and in particular the Staffordshire Hoard, for the past few years.

Why thorns?

The idea of using thorns for the Staffordshire Hoard objects was first considered as gramophone records were historically played with thorns, suggesting that it may be a suitable material to trial.

Steel implements such as scalpels, picks, and pins are commonly seen in a conservator's toolkit, but these tools are much harder than the hoard gold and silver alloy objects and are therefore not suitable due to the risk of scratching and possible marking the gold.

Many hoard objects already have a number of surface scratches, but the majority of these are the result of manufacture construction marks or from the subsequent removal of their component parts from the original objects in the 7th century. Thorns have become the perfect solution for the conservation of the 4000 fragments and objects that make up the Staffordshire Hoard.

The benefit of thorns

Thorns have the advantage of having very fine, naturally sharp but flexible points that can get into very small areas. Many hoard objects have very fine cloisonné or filigree decoration, and a tiny implement is required to remove soil around these decorative features.

A selection of different thorns ready for action



© Birmingham Museums Trust

The Staffordshire Hoard Conservation Team at Birmingham Museums Trust on Using Thorns to Conserve the Staffordshire Hoard

Thorns from several species of plant were trialled, but the thorns that had the properties we were looking for—softness, flexibility, and thin/small size—were berberis, pyrocanthus, hawthorn, and blackthorn. These thorns vary in size and flexibility, which enables us to select the thorn that is most appropriate for a particular object.

Other virtues

In addition to being softer than steel and safer to use on hoard objects, using thorns in conservation has other indirect benefits:

- thorns are a natural product that is completely biodegradable, so they can be disposed of along with regular rubbish;
- they are a sustainable and renewable product;
- they are free of charge and in abundant supply in the back gardens and allotments of Britain, so they do not affect our budget;

Cleaning with a thorn



© Birmingham Museums Trust

The results of careful cleaning with thorns



© Birmingham Museums Trust

unlike cocktail sticks, they do not tend to split and splinter; instead, the point grows dull or the entire thorn snaps in half, at which point it is simply thrown away.

Possible drawbacks

A few potential risks to using thorns have been identified, the first one being that insects might hitch a ride into the studio on the thorns and their associated branches and leaves. To minimise this risk, bags of thorns are inspected prior to being brought into the museum, at which point they are held in the conservation offices instead of the studio until they are ready to be clipped. The second risk is that some natural substance such as plant juice/sap might be transferred from the thorns to the objects. To minimise this risk thorns are inspected and only dry, clean thorns are used.

Thorns in action

The use of thorns has been very successful in conserving these important objects and the conservation process can now be seen featuring in the New Staffordshire Hoard Gallery which opened last October at Birmingham Museum and Art Gallery. Visitors can see the tools, learn about how the hoard has been conserved since its discovery, and even look down a microscope to see the cleaning in action.

Reprinted with permission from ICON News, The Magazine of the Institute of Conservation. May 2015, Issue 58.

Visitors around the new conservation and research tables at Birmingham Museum and Art Gallery



© Birmingham Museums Trust