



Article: Effects of Enclosure pH on Cyanotypes and Blue Prints (Prussian Blue)
(Abstract)

Author(s): Lauren Held, Daniel Burge, and Douglas Nishimura
Topics in Photographic Preservation, Volume 15.

Pages: 1

Compiler: Jessica Keister

© 2013, The American Institute for Conservation of Historic & Artistic Works. 1156 15th St. NW, Suite 320, Washington, DC 20005. (202) 452-9545, www.conservation-us.org. Under a licensing agreement, individual authors retain copyright to their work and extend publication rights to the American Institute for Conservation.

Topics in Photographic Preservation is published biannually by the Photographic Materials Group (PMG) of the American Institute for Conservation of Historic & Artistic Works (AIC). A membership benefit of the Photographic Materials Group, *Topics in Photographic Preservation* is primarily comprised of papers presented at PMG meetings and is intended to inform and educate conservation-related disciplines.

Papers presented in *Topics in Photographic Preservation, Vol. 15*, have not undergone a formal process of peer review. Responsibility for the methods and materials described herein rests solely with the authors, whose articles should not be considered official statements of the PMG or the AIC. The PMG is an approved division of the AIC but does not necessarily represent the AIC policy or opinions.

Abstract: Effects of Enclosure pH on Cyanotypes and Blue Prints (Prussian Blue)

Lauren Held, Daniel Burge, and Douglas Nishimura

Presented at the PMG session of the 2012 AIC Annual Meeting in Albuquerque, New Mexico.

The purpose of this experiment was to determine whether the belief that cyanotype prints will be adversely affected by buffered enclosures in long-term storage is truly valid. This belief has been supported by anecdotal reports, experiments with alkalis on Prussian Blue, and experiments with calcium carbonate paste directly on cyanotype prints. The effect is not known to have been established using actual, commercial buffered and non-buffered storage papers (interleave tissues, envelope papers, folder stocks etc.). Contrary to the above, it has been theorized that since calcium carbonate buffering is in a mostly solid form in paper (it has a low solubility and the moisture content of paper is typically very low), it is not likely to be reactive with the cyanotype colorants (or other imaging colorants such as chromogenic dyes or binders such as albumen). In fact, ISO 18902 *Imaging materials -- Processed imaging materials -- Albums, framing and storage materials* now allows the use of buffered papers for storage of all photographic materials; however, cyanotypes are not discussed specifically. Archival suppliers would prefer to stock only buffered papers as they are more widely used. It is also becoming more difficult for suppliers to find paper mills willing to produce high-quality non-buffered papers. It would also make it easier on institutions if one enclosure paper could be used for most if not all print types. These contradictions between theories, experience, experimental results, and standardized recommendations need to be rectified. In these new experiments papers of varying pH as well as commercial buffered and non-buffered papers were artificially aged in contact with prints created using several historic cyanotype formulations. It was found that some cyanotype formulations were more sensitive to alkaline damage than others, but all were sensitive to both alkaline and neutral papers. Only acidic papers fully protected the images.

This paper was published in full within Topics in Photographic Preservation, Volume 14: Held, L., D. Burge, and D. Nishimura. 2011. The effects of acidic, alkaline, buffered, and non-buffered enclosures on cyanotypes. Topics in Photographic Preservation. 14: 237-249.

Lauren Held, Daniel Burge, and Douglas Nishimura
Image Permanence Institute
Rochester, New York, USA

Papers presented in *Topics in Photographic Preservation, Volume Fifteen* have not undergone a formal process of peer review.