

# Akua Inks for Innovative Printmaking

*by Susan Rostow*

## Akua Inks: **Introduction**



*Ron Pokrasso, Below the Tree*  
*ImagOn, Solarplate, monotype, chine colle*  
*the artist with Akua Intaglio Water-based Ink*

*Akua is pronounced a-koo-ah and means "spirit" and "honor the land" in Hawaiian.*

Akua inks are professional quality, water-based inks created by two printmakers, Susan Rostow and William Jung.

In the mid-nineties Susan and William began looking for a water-based printmaking ink that was safe to use in their non-ventilated, home studio. They discovered that the few water-based inks available dried too quickly and were not of professional quality. At that time there was not a single water-based ink on the market that was specifically made for wiping an intaglio plate or working a monotype plate with a long open time. They recognized that there was a growing demand from artists who wanted to make high quality prints without compromising their health, so they decided to develop their own water-based ink. They ended up creating two lines of ink: Akua Kolor (now 'Liquid Pigment') and Akua Intaglio.



*Note: Some artists successfully mix Akua inks and fluids with oil based inks to alter consistency, wiping properties, or drying time of the ink*

Akua Kolor is more like a liquid watercolor and can be used for monotype printmaking, Japanese woodcut, painting on paper as well as tinting Akua Intaglio.

Akua Intaglio is more like a traditional intaglio ink. It can be used for all types of intaglio including Solarplate, ImagOn and other photopolymer methods, relief and monotype.

### **What are the Advantages of Akua Water-based Ink?**

Akua inks clean up with soap and water, not hazardous solvents. Akua inks clean up very quickly, leaving you with more studio time.

Akua inks never harden or skin, meaning you don't waste ink and no longer have to use hazardous anti-skin sprays. Akua inks will not dry on a non-absorbent surface, meaning you never have to clean your palette or worry about damaging tools with dried ink.



*Hugh Bryden / Plastic Drypoint plate printed by the artist*

## **Water-based Ink or Water-soluble Ink?**

Both Akua Kolor and Akua Intaglio are water-based; only Akua Kolor is water-soluble. It is important to know the distinction between water-based and water-soluble. The term water-based implies that water is amongst the ingredients. The term water-soluble is used to describe substances that dissolve in water. Akua inks are called water-based because water is used as the solvent to disperse dry pigment into paste form. Akua Kolor is made with gum arabic and is therefore water-soluble. Akua Intaglio is made with soy oil and is not water-soluble. Soap is integral to the clean up of Akua Intaglio ink, as water alone will not dissolve the ink. Non water-solubility is an important quality in an intaglio printmaking ink, as the process requires working with damp paper.



*Neal Ambrose-Smith, Coyote Goes Hunting (2007) Intaglio-Type plate printed by the artist with Akua Intaglio Water-based Ink*

### **Pigment Information**

Rostow & Jung select the safest pigments possible. Akua inks do not contain the more hazardous pigments that are known to contain heavy metals such as lead, cadmium, nickel and cobalt. The Akua web site posts a mixing guide for printmakers to learn how to mix color blends and hues for color replacements for the more hazardous pigments.



For example: Cobalt Blue Hue (replacement for genuine)

Genuine pigment contains Cobalt and Aluminum

Mix: Ultramarine Blue Phthalo Blue Titanium White

Cadmium Red Hue (replacement for genuine) Genuine pigment contains Cadmium

Mix: Scarlet Red Crimson Red

Click for a complete list relevant links: [On Pigments](#) / [Safe Painting](#) / [Pigment Toxicity](#)

## Identifying Pigments

Manufacturers are free to give their art supply colors whatever name they deem appropriate. Different manufacturers give different names to the same color, even if the same pigments are used. Therefore, names may vary from one brand to another.

Rostow & Jung try to use the pigment's technical name for Akua Inks. When trying to identify pigments used in ink or paint, research the color index name, not the name given by the manufacturer.

## The Color Index Name

The Color Index is a standard list of identification numbers and names given to individual pigments used in all art materials. This information identifies the actual pigment used in a particular ink or paint. It also indicates whether it is made from a single pigment or a mixture of pigments. The color index names for all pigments used in Akua inks can be found on Akua ink labels, website and literature.

Examples:

Ultramarine Blue PB: 29 (single pigment) PB: 29 – The first letter identifies whether a pigment or a dye is used. Here the P indicates that a pigment is used. PB: 29 – The second letter identifies the pigment code. Here, the pigment code stands for blue. PB: 29 – The number indicates the specific pigment number.

Van Dyke Brown PR101, PR112, PBk7 (mixture of three pigments) When analyzing Akua's Van Dyke Brown color index name you can see that the color comes from three pigments.



'Quantum Ice', Friedhard Kiekeben, Intaglio Type Print made using AKUA Intaglio, RIT,

2011

## Single Pigment or Pre-mixed Blends

The majority of Akua Inks are made with single pigments. When an artist mixes their own colors, a single-pigment color will mix truer and more predictably. When the manufacture mixes and packages two or more pigments for the user's convenience it is referred to as a pre-mixed blend.

The Akua website has an extensive section devoted to pigment information where you can learn more about pigment types (inorganic and organic) as well as how to mix specific colors.



## The Akua Palette / Ink Slab

Akua inks will never harden or skin in the jar or when left out on the plate, ink slab or any non-absorbent surface. Therefore, you never have to clean your palette or worry about damaging brayers, brushes or tools.

The everlasting Akua ink slab can be left uncovered for years.



## **What is the Difference between Working with Akua Water-based and Oil-based ink?**

Working with Akua Intaglio Water-based Ink is very similar to working with oil-based ink. The only change that needs to be made in the studio is the replacement of the solvent can with a bottle of diluted dish soap for clean up. All other methods and materials that the printmaker is used to remain the same. As with all types of printmaking, adjustments can be made along the way to achieve a desired result. Akua modifiers are available to make the ink thicker, thinner or control the transparency.

### **Testing Inks with a Master Printmaker**

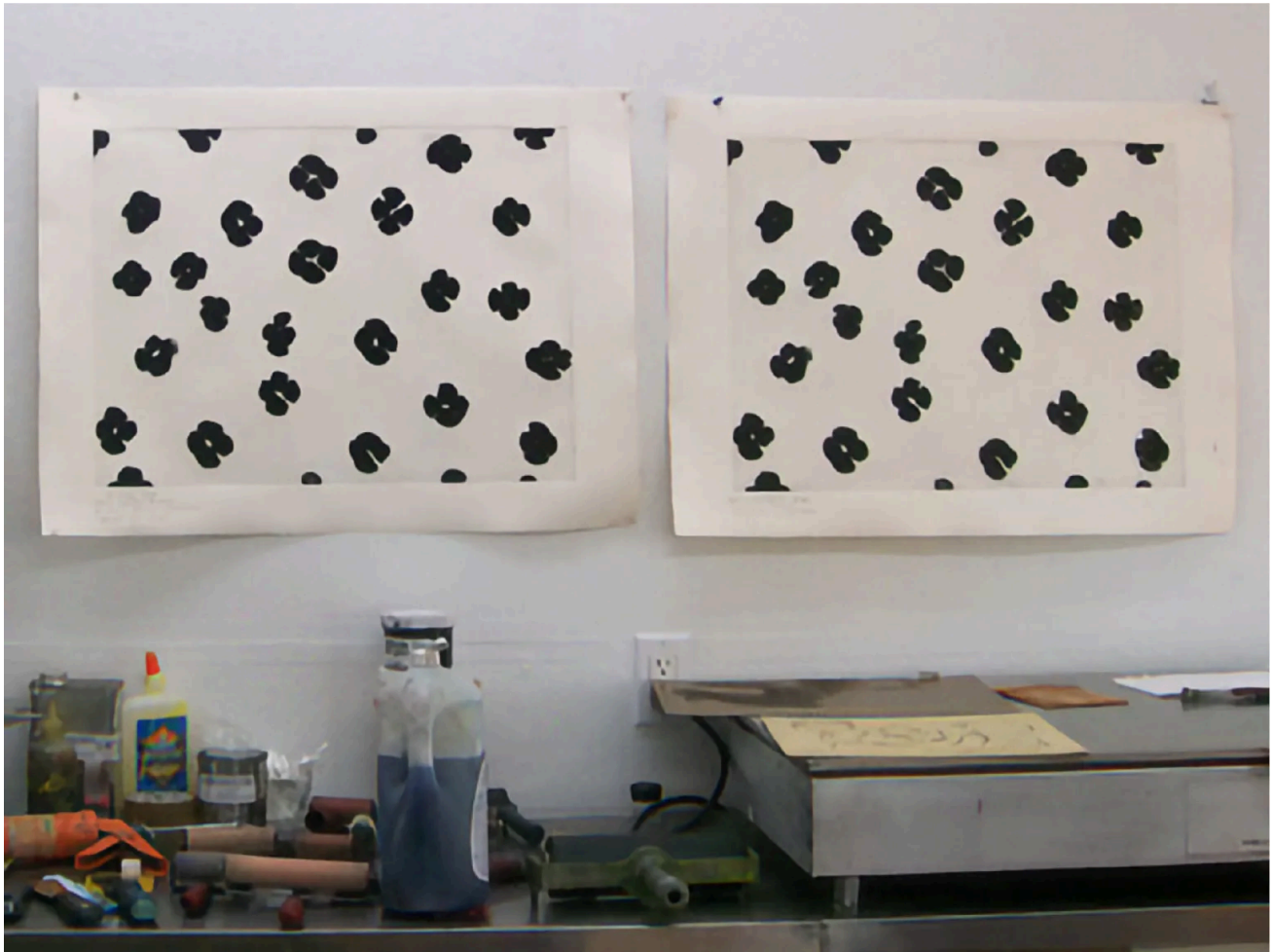
In March of 2008, Master Printmaker Tony Kirk and Susan Rostow printed a variety of plates using Graphic Chemical 514 oil-based ink and Akua Intaglio Water-based at the Center for Contemporary Printmaking (CCP) in Norwalk Connecticut.

They found that in almost all situations, prints made with water-based ink were identical to prints made with oil-based ink. Aquatints, line etching, drypoint, and carborundum plates all printed equally well without any modification for either inks.



*Aquatint printed by Tony Kirk, one printed with Akua Intaglio and the other with oil-based ink. Master Printmaker Tony Kirk applying ink with card.*

The two prints were indistinguishable from one another.



*Donald Sultan (work in progress)*



*Mary Frank (work in progress)*

One situation where the Akua Intaglio water-based ink did require modification was while printing a Solarplate by Mary Frank.

*Mary Frank (detail of work in progress) Printed with oil-based ink*



The Solarplate printed with oil-based ink printed lighter showing the fine, linear marks on the plate.

The print in which Akua Intaglio water-based ink was used appeared very dark with less contrast. This is due to Akua Intaglio's heavy pigment load. In this case, it was necessary to modify the Akua water-based ink in order to reveal the lines and obtain the same results as oil-based inks.



By mixing 40% Akua Transparent Base into 60% Akua Intaglio Carbon Black water-based ink, the pigment intensity was reduced. Results proved that with this modification, the water-based and oil-based final prints were identical.

## **Results from the Perspective of a Master Printmaker**

Tony was impressed by the excellent quality of the prints made with Akua Water-based Intaglio inks. He was pleasantly surprised that he did not have to adjust his familiar working methods. Although he used the same techniques, the entire process of wiping the plate and cleaning up Akua ink was done with less effort and time than with oil-based ink. He especially likes the fact that Akua ink doesn't dry on the slab, which eliminated the need to clean up right away.

Click to view a slideshow documenting Tony and Susan's session comparing processes and print results using Akua Water-based ink and oil-based ink.

AKUA INKS Contact Information

For purchasing Akua inks, technical instructions, articles, slideshows, print galleries, and more:

Website

<https://www.speedballart.com/our-product-lines/akua-printmaking/>

Click for information on upcoming printmaking workshops using Akua Inks.

## **Formulating Safer Inks**

*by Susan Rostow & William Jung*

Our first collaboration in printmaking began when we first met in 1986. We did a traditional acid etched plate and printed it with oil based inks. We continued printing together and got married in 1991. By 1993 we decided it was time to start working on the greatest collaboration of all; a baby.

Many fears and questions arose while making the decision of having a baby. Is it possible to make prints without breathing in toxic fumes from oil-based inks, solvents, acids and photographic chemicals? Are these fumes doing damage to our reproduction systems? Is it possible to print while pregnant? Will it be safe for the baby to come into the studio? Will we live a long and healthy life? Questions, questions, questions. We knew in our hearts that the printmaking materials that we were working with were a hazard to our health. We read as much as we could about the harms that each substance could possibly bring on to our bodies. We knew we had to do something about it because we didn't want to give up on printmaking for nine months or forever for that matter.

At first we tried monoprinting with water-based inks. Monoprinting was fine but we were unhappy with the quality of the water-based inks that were available. We found water-based woodblock inks to be loaded with fillers.

We realized that necessity is the mother of invention and set out to make our own inks that would do exactly what we wanted them to do. We experimented with a variety of formulas after reading books on how to make watercolors. Our goal was to make water-based ink for reductive monotype that had a greasy working consistency similar to that of oil-based ink. It needed to roll-up smoothly and stay wet on the plate for a long period of time.

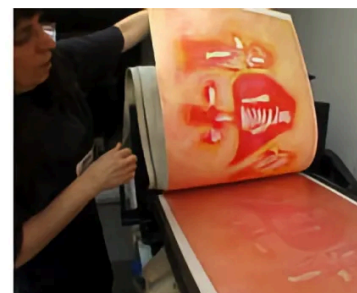
After testing many formulas we decided that very few ingredients were really necessary. We left out additives that ink manufacturers use to keep the pigments suspended in the base. All this meant to us was that we had to shake the bottle of ink before each use. In return our colors would not have a plastic or chalky appearance. We also did away with fillers that are generally used to extend and stiffen inks. Fillers are powders that are inexpensive and are used by manufacturers to fill up space in the container. These fillers only dulled the colors and were not necessary in making good quality ink.

Rolling Akua Kolor onto the monotype plate and applying drops of Akua Kolor. Susan Rostow gives details of her process on her SAFEPRINTMAKING video.

We decided the best binder for monotype ink was gum arabic. Along with the gum arabic we added another ingredient to help the ink roll smoothly, something to keep it from drying, and something to give it a greasy consistency. The real trick was in

figuring out the correct proportions of binder and additives in combination with each individual pigment. We learned that all pigments have different characteristics and the formula had to be adjusted for each individual color.

Once we understood the necessary components of the base we focused on pigment selections.



As artists, we were concerned about the light fastness of every color. We used *The Artists Guide to Selecting Colors* by Michael Wilcox and *Hillary Pages Guide to Watercolor Paints* to guide us in deciding on which pigments to use. Printed papers taped to our sunny studio windows also reassured us of their light fastness. After years of research, experimentation, testing and consulting with chemists, toxicologists, printmakers and artists we came upon a unique water-based ink formula that fulfilled all our monotype desires. We felt confident that the inks we were using were of excellent quality since we selected only the finest and safest ingredients. In addition to meeting our needs, our new inks had tremendous advantages over any other oil or water based ink we have ever used.

Printmaking became more enjoyable than ever before. Cleaning up was so easy with just water and a sponge. Our new ink rolled out directly on the plate so the chore of cleaning an ink slab was eliminated. No time was spent soaking and blotting paper since prints were made on dry paper. Finished prints did not require the tedious task of drying flat under blotters. Now, more time could be spent on the creative level while less time was spent on preparation and clean-up.

Our baby boy was born in 1996. We had no fears as we worked all during the

pregnancy. Jarrett is now eleven years old and a happy healthy member of our printshop.

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art + science (paint)

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