

The Alternative

IRTA Newsletter

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IRTA Tests Alternative Stripping Technologies for Boats

The last issue of the newsletter included an article about IRTA's new project on finding methods of facilitating the use of safer alternative paints for boat hulls. The project is sponsored by Cal/EPA's Department of Toxic Substances Control (DTSC) and EPA. IRTA has partnered on a different project with the Port of San Diego which is sponsored by EPA on safer alternative paints for the last several years.

For many years, tributyl tin paints were used on boat hulls to prevent marine growth from attaching to the hulls of boats. The use of these paints was banned when it was found that they did substantial damage to marine life. At that stage, the industry converted to copper antifouling paints and these paints have been used for many years on all kinds of boats. The copper paints now are also proving damaging to marine life and high levels of copper have been found in several basins throughout California. The Port/IRTA project is focusing on all of the alternatives to copper antifouling paints which include alternative biocide paints. The project IRTA recently initiated with DTSC and EPA is focusing only on the alternative non-biocide paints.

One of the major barriers for boaters to convert from the copper or other biocide paints to non-biocide paints is that the boat hull needs to be

stripped of the old paint. The cost of stripping a boat is very high and boatyards may charge \$3,000 to \$5,000 for a paint job with stripping instead of about \$1,000 for a copper coating paint job. Boatyards generally strip the boats by hand and it is very labor intensive and time consuming.

In the new DTSC/EPA project, IRTA is testing and analyzing alternative stripping methods that should be faster, less labor intensive and less costly than hand stripping. If a less costly stripping method were identified, it could make boaters and boatyards more willing to use the non-biocide paints. IRTA recently arranged a demonstration of three alternative stripping methods at a boatyard in the San Diego area so the alternatives could be tested and compared. Marine Group, a boatyard in Chula Vista, had a boat that was scheduled to (see **Alternative Stripping page 3**)





Small Business Corner

SCAQMD Rescinds and Readopts Low VOC Limit for Paint and Lacquer Thinner

On July 9, the South Coast Air Quality Management District (SCAQMD) Governing Board readopted a 25 gram per liter VOC limit in Rule 1143 "Consumer Paint Thinners and Multi-purpose Solvents." A court judgement in response to a lawsuit by W.M. Barr, a supplier of paint thinners, required the District to rescind the rule. The new rule will address flammability issues by requiring additional labeling and public education. The effective date of the 25 gram per liter VOC limit is January 1, 2011.

In response to the rule readoption, W.M. Barr again filed a lawsuit on July 15. The lawsuit questions SCAQMD's authority to regulate the consumer product category, and indicates that only the California Air Resources Board (CARB) can adopt regulations. The lawsuit also reiterates the problem with flammability that was addressed in the original lawsuit. CARB has indicated that the District does have the authority to regulate the category and has adopted a similar statewide regulation.

In public forums, the suppliers of the paint thinners and multi-purpose solvents have expressed concern about the increased flammability of many of the alternative paint thinners. In fact, however, the major uses of these products at this stage are for cleanup

Illustration by Todd Schmid

rather than for thinning. Many of the coatings used widely in architectural and industrial applications are either water-based or do not require thinning. Alternative cleanup materials like water-based and soy based formulations are widely available and they meet the 25 gram per liter VOC limit. The suppliers are apparently concerned about flammability from a safety standpoint but they seem to have little concern for exposing consumers and workers to toxic chemicals like toluene which are used extensively in the products.

The District is proposing to amend Rule 1143 to provide an exemption for artist solvents and thinners that are packaged in 32 fluid ounce containers. CARB includes the same exemption in the statewide regulation. The change is expected to be adopted in December.

IRTA conducted a project designed to identify, develop, test and demonstrate safer alternative paint thinners and multi-purpose solvents. During the project, which was sponsored by Cal/EPA's Department of Toxic Substances Control, IRTA demonstrated safer alternatives.

For more information on alternatives, contact Katy Wolf at IRTA at (818)371-9260.



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Alternative Stripping

(Continued from Front Page)

be demolished. The boatyard generously allowed IRTA to conduct the demonstrations of the stripping technologies on the boat.

The three alternatives that were tested included sodium bicarbonate blasting, volcanic rock blasting and dry ice blasting. Advanced Restoration Company provides sodium bicarbonate blasting services for a few of the boatyards in San Diego. The technique is referred to as soda blasting and it utilizes the media in a portable system that is taken to the site for stripping. Troy Trombly, owner of Advanced Restoration Company, participated in the testing. "I'm interested in expanding the use of soda blasting or any other blasting method for pleasure boat stripping," says Mr. Trombly. Advanced Restoration shrouds the boats, strips them and collects the media and coating residue for disposal by the boatyard.

The second technology that was tested, the Farrow System, is a self-contained unit with its own air compressor and a 110 gallon water supply. It is mounted on a trailer and it uses volcanic rock as the abrasive medium for stripping. The technology uses low pressure air, heat, water and the media for surface cleaning or stripping. The company claims that containment is not necessary because the technology

is wet and the unit can be purchased or rented from Hawthorne Rent-It Service.

The third technology, a dry ice blasting system, is based on a Cold Jet system marketed by Red-D-Arc. It relies on solid carbon dioxide accelerated at supersonic speeds to clean or strip surfaces. The advantage of this technology is that it generates no secondary waste stream because the carbon dioxide sublimes or forms a gas during application. Red-D-Arc



sells or rents a variety of different systems depending on the application.

During the demonstration, all three of the technologies were able to strip the copper antifouling paint from the boat hull. The technology vendors enjoyed the demonstrations and tested the other technologies so they could compare the performance. DTSC took samples of the spent media and/or coating residue

and they are being analyzed to determine if they are classified as hazardous waste. Once the results are available, IRTA plans to estimate and compare the costs of using the three alternative technologies to determine if they are more cost effective than hand stripping. The results will be publicly available to boaters, boatyards, the technology vendors and any other interested parties.

For more information on the alternative stripping technologies, contact Katy Wolf at (818) 371-9260.



IRTA Partners with Port of San Diego on Panel Testing of Emerging Paints

Over the last few years, IRTA has partnered with the Port of San Diego on an EPA sponsored project that involves testing alternatives to copper antifouling paints. The project has focused on testing alternative biocide and non-biocide paints on panels and on boats. The project is scheduled to be completed soon in January, 2011.

IRTA is working on another project sponsored by Cal/EPA's Department of Toxic Substances Control (DTSC) and EPA which is exclusively addressing non-biocide alternative paints. As part of that project, IRTA is collaborating with the Port of San Diego to conduct additional tests on a third set of panels. Over the last few years, with the results of two sets of panel tests and boat tests, the suppliers have refined some of their new paints and have developed additional coatings that should have improved performance and lower cost. Panel tests help to determine whether the emerging paints would be suitable for testing on boats.

The panels were painted in August at Knight & Carver Yacht Center in Chula Vista, California. Ten suppliers provided sixteen new

non-biocide paints which were each applied to a set of three panels in a PVC frame. In some cases, the suppliers were present and painted their own panels; in other cases, the suppliers shipped their paints and Sean Tobacco, the Paint Supervisor at Knight & Carver, assisted with the painting. Some of the paints were rolled on the panels and others were sprayed.



Says Kate Pearson, Vice President of Business Development at Knight & Carver, "we like to be involved in the research on alternative paints so we can use them on boats when they are commercially available. We want to be out front on environmental protection." The panels were placed in the water at a yacht club in the San Diego area. IRTA and the Port will monitor the panels for a year to document the marine growth and will clean them regularly on a three week schedule. The paints that appear promising in the panel testing can be used on boats.

For more information on the alternative paints, call Katy Wolf at IRTA at (818) 371-9260.



Boater Converts to Safer Alternative Boat Hull Paint

Steve Auerbach has always been concerned about protecting the environment. He keeps a 25 foot sailboat at the Balboa Yacht Basin in Newport Beach. The boat is a 25 foot Catalina called PiSeas II and Mr. Auerbach takes the boat out on the weekends. He often takes the boat to Catalina.

About a year ago, Mr. Auerbach saw an article in a local boater newspaper about a project the Orange County Coastkeeper had just initiated. The Coastkeeper project is focused on reducing the copper loading in Newport Bay. Copper antifouling paints have been used for many years on boat hulls to control fouling and prevent marine attachment. These paints, however, are toxic to marine life. The Coastkeeper has developed an incentive program for boaters specifically in the Balboa Yacht Basin. The program provides some funding to boaters if they switch from copper paints to safer non-biocide hull paint alternatives. IRTA is collaborating with the Coastkeeper to help boaters select and apply safer alternative paints as part of a project sponsored by Cal/EPA's Department of Toxic Substances Control (DTSC) and EPA. The purpose of the project is to facilitate the use of the non-biocide alternatives.

Many of the safer alternative hull paints that are available require the boat hull to be stripped before they can be applied. Stripping a boat can be very expensive and the Coastkeeper provided some funding to offset the cost of stripping and painting Mr

Auerbach's boat. "I have always cared about the environment and when I saw the article, I was very interested in painting my boat with a safer paint," says Mr. Auerbach.

The alternative paint Mr. Auerbach decided to use on his boat is called Intersleek 900, a product supplied by Interlux Paint. It is a so-called foul release paint which is designed to be smooth so fouling cannot easily attach to the boat hull. Although the alternative non-biocide paints are often more expensive to apply and purchase, they have much longer lives than the traditional copper paints. Says Stan Susman of Interlux Paint "the Intersleek 900 has a life of at least five years on commercial boats which is much longer than the two years for a copper paint."

As part of the project, the Coastkeeper paid a portion of the cost of the haulout and paint job at South Coast Shipyard in Newport Beach. Mr. Auerbach paid for the cost of a typical copper paint job. Most boatyards have no experience in applying the non-biocide paints but the Southcoast Shipyard was interested in learning the new procedure. "The boatyard did a very good job in applying the paint even though it was the first time they used one of these new paints," says Mr. Auerbach. Mr. 



IRTA Recruiting Boaters to Participate in Project

IRTA is working on a new project sponsored by Cal/EPA's Department of Toxic Substances Control (DTSC) and EPA that is focusing on making non-biocide alternatives to copper antifouling paints easier and less costly to use. Copper antifouling paints have been used for many years and the high levels of copper in California basins may be damaging marine life. There is a need to move to alternative paints over the next several years.

Suppliers are developing alternative paints for pleasure craft that do not contain copper. There are several classes of alternatives. First, there are a variety of paints that rely on zinc pyrithione, a biocide, for preventing attachment to the boat hull. Second, some paints have recently been formulated with a new biocide called Econea. This biocide contains halogens which have proven to cause many different types of problems in other compounds. Some of the new paints have combinations of zinc pyrithione and Econea. The third type of alternative is non-biocide paints. These are generally referred to as foul release coatings. They are designed to be smooth so fouling has difficulty attaching to them. Some of the non-biocide paints are very hard paints, some are soft and flexible and still others have unusual properties. The biocide alternatives to

copper do not provide a permanent solution and their ingredients may pose problems down the line. It makes more sense to adopt the non-biocide paints and IRTA's DTSC/EPA project has this aim in mind.

The cost of the alternative paints is higher than the cost of the copper paints. Copper paints generally last about two years before they require repainting. The biocide alternative paints may have a shorter life, about 18 months, which makes them more costly to use. The non-biocide paints are more expensive and they require more complex application procedures. Because they do have longer lives of five to ten years, however, the cost of using some of them may be comparable to the cost of using copper paints over the paint lifetime.

IRTA is seeking boaters with 30 foot to 45 foot boats in the Los Angeles or San Francisco area to participate in the project. Boaters will be involved in a cutting edge technical project and IRTA will develop case studies and evaluate and compare the costs of the alternative non-biocide paints and the more traditional copper paints.

Boaters or others interested in the project should contact Katy Wolf at IRTA at (818)371-9260SCAQMD

Need help finding an alternative?

IRTA assists firms in converting to suitable alternatives in cleaning, paint stripping, coating, thinning, dry cleaning and other applications.

SCAQMD Modifies Lubricant Rule

On July 9, the South Coast Air Quality Management District (SCAQMD) Governing Board amended Rule 1144 "Vanishing Oils and Rust Inhibitors." The rule was first adopted in March of 2009. The amendments expand the applicability of the rule to include direct contact lubricants and metalworking fluids. Companies will adopt lower VOC alternatives over the next few years.

IRTA conducted a two projects sponsored by EPA and SCAQMD to identify, develop, test and demonstrate safer alternative lubricants, vanishing oils and rust inhibitors. The alternatives that performed well included water-based and vegetable based materials.

For information on alternatives, contact Katy Wolf at IRTA at (818) 371-9260.

IRTA's Address and Phone Numbers Have Changed

Please make a note of IRTA's new contact information below:

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Phone: (323) 656-1121
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CALENDAR

October 27-28

2010 Western Sustainability & Pollution Prevention Network Conference, Bahia Hotel and Resort, San Diego, CA. For information, access www.wsppn.org

November 18-19

California Air Resources Board meeting to propose amendments to the Consumer Product Regulations, Sacramento, CA

IRTA is working together with industry and government towards a common goal, implementing sensible environmental policies which allow businesses to remain competitive while protecting and improving our environment. IRTA depends on grants and donations from individuals, companies, organizations , and foundations to accomplish this goal. We appreciate your comments and contributions!

Yes! I would like to support the efforts and goals of IRTA.

Enclosed is my **tax-deductible** contribution of: \$ _____

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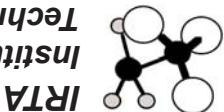
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