

The Alternative

IRTA Newsletter

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Winter 2008

IRTA Sponsors Dry Cleaning Alternatives EXPO

IRTA is arranging and sponsoring an EXPO that will focus on certain alternatives to perchloroethylene (PERC) in dry cleaning. The alternatives that will be addressed include various types of water cleaning processes and carbon dioxide dry cleaning.

The EXPO is co-sponsored by several other organizations including Southern California Edison (SCE), the California Air Resources Board (CARB), the California Department of Toxic Substances Control (DTSC) and U.S. EPA Region 9. The event will be held at SCE's Customer Technology Application Center (CTAC) which is located in Irwindale, California. The EXPO is targeting cleaners and it will be held on Sunday, May 18 from 9:45 AM until 3:30 PM.

The PERC dry cleaning alternatives EXPO will provide cleaners with information on water-based and carbon dioxide cleaning alternatives. The event will feature speakers from government agencies who will discuss the PERC regulations and the grant programs that are available for purchasing water-based and carbon dioxide systems. Speakers from CARB, the Bay Area Air Quality Management District (BAAQMD) and the South Coast Air Quality Management District (SCAQMD) will provide information on their programs. A SCAQMD regulation phases out the use of PERC dry cleaning in 2020; a CARB regulation calls for a phaseout of PERC dry cleaning a few years later, in 2023.

The EXPO will also include speakers from four textile cleaning facilities who have successfully converted to water-based and carbon dioxide processes. Cleaners and govern-

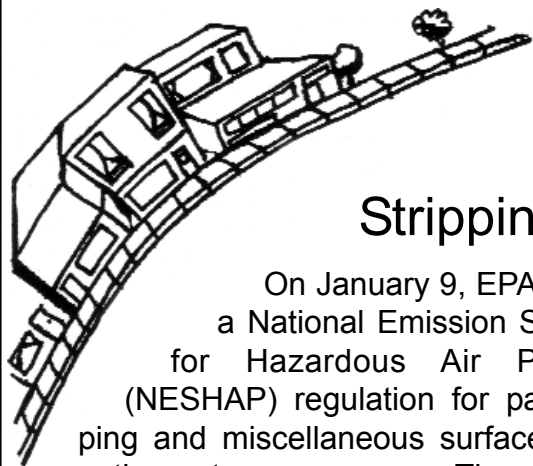
ment representatives who attend can ask questions about the how the technologies perform and their costs. In a project sponsored by CARB, IRTA held showcases at the four textile cleaning facilities and analyzed the performance and cost of the options. Case studies for each of the facilities will be available at the EXPO. The four facilities represented by the panel members are Mastercraft Cleaners in Fresno, Hangers Cleaners in San Diego, Royal Cleaners in Santa Monica and Legacy Cleaners in Tustin.

Vendors who sell water-based and carbon dioxide supplies and equipment will be on hand to give out information on their processes. Vendor tables will be provided for exhibiting handouts on conditioning agents, detergents and equipment. The EXPO will include a demonstration of wet cleaning equipment.

IRTA will also provide information on safer spotting chemical alternatives at the EXPO. The major POG (Paint, Oil and Grease) spotting chemicals used by the industry contain trichloroethylene (TCE) and PERC. TCE, like PERC, is a carcinogen. The BAAQMD representative will discuss a proposal to phase out the use of PERC and TCE spotting agents in the Bay Area. Alternatives that can be used are water-based and soy based materials.

The EXPO is free but people who would like to attend must register with IRTA at (818) 244-0300. A continental breakfast and buffet lunch will be provided. Vendors who would like to exhibit information should also contact IRTA to reserve a table. Space is limited so please register early.





EPA Adopts NESHAP For Paint Stripping and Certain Coating Operations

On January 9, EPA finalized a National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation for paint stripping and miscellaneous surface coating operations at area sources. The regulation will affect furniture strippers who use methylene chloride (METH) and autobody shops who use coatings containing chromium, lead, manganese, nickel or cadmium. METH and the metals are classified as Hazardous Air Pollutants (HAPs) under the Clean Air Act Amendments of 1990. New sources must comply with the requirements of the final rule upon startup of operations after January 9, 2008 and existing sources must comply before January 9, 2011.

Furniture strippers using METH strippers must implement management practices and shops using more than one ton (about 180 gallons) of METH annually must develop and implement a METH minimization plan. Strippers are required to submit this plan to EPA or a state or local permit authority and must keep a written copy of the plan on-site. Existing sources must submit an initial notification to EPA or the state or local air district one year before the compliance date of January 9, 2011.

Autobody shops must use HVLP spray guns or guns that achieve equivalent transfer efficiency. The coatings must be applied in prep stations or spray booths large enough to hold a vehicle. The exhaust must be fitted with filters demonstrated to achieve at least 98 percent efficiency for paint overspray. The industry must also comply with management practices. Painters must be trained every five

years and spray guns cannot be cleaned by spraying the coating through them. The painters at new shops must attend training within 180 days from the date of this regulation or 180 days after they are hired. Painters at existing sources must complete training no later than three years from the effective date of the notice.

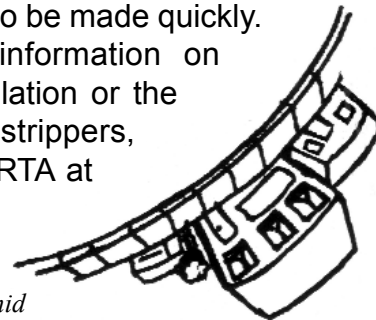
About a year ago, IRTA completed a project that involved finding and demonstrating safer alternatives to METH consumer product strippers and the strippers used by furniture stripping facilities. The alternatives that performed well in stripping applications were based on benzyl alcohol (BA). BA has been tested for carcinogenicity and the results indicated it is not a carcinogen. IRTA has asked the California Air Resources Board (CARB) to ban the use of METH consumer product strippers. The local air districts could also ban METH strippers used by furniture stripping facilities. Strippers who converted to the alternative strippers would not have to comply with the NESHAP regulation.

It is not clear whether CARB or the local air districts will implement the EPA regulation. The agencies will have to decide, over the next few months, which agencies should have authority. Since new facilities must comply with the regulation soon, the decision will have to be made quickly.

For more information on the NESHAP regulation or the alternative paint strippers, call Katy Wolf at IRTA at (818) 244-0300.



Illustration by Todd Schmid



Visit our website: www.irta.us

Read back issues of The Alternative and recently completed reports.

IRTA Begins New Project With Port of San Diego

IRTA and The Port of San Diego are partnering on a project sponsored by U.S. EPA Region 9 and The Port. The project involves testing and demonstrating safer alternatives to copper antifouling paint used on pleasure craft in the Shelter Island Yacht Basin (SIYB).

Historically, tributyl tin (TBT) antifouling coatings were used to prevent marine organisms from fouling the hulls of boats. The marine organisms increase power boat fuel consumption, create drag on sail boats and can damage boat hulls. TBT was found to be toxic to marine life at low concentrations and the U.S. banned the material in 1988. The industry began using copper based antifouling paints but the higher copper levels can affect growth, development and reproduction of a number of marine species.

High levels of dissolved copper have been found in the SIYB and a Total Maximum Daily Load (TMDL) has been established. The regulation requires a 76 percent reduction in copper loading by 2022 and interim compliance limits are also required. To address the issue and devise a scheme for meeting the TMDL requirements, The Port and IRTA are conducting a project to identify, test and demonstrate alternative non-copper coatings.

The Port has assembled a large working group comprised of coating suppliers, boat yard and marina representatives, government agency representatives, environmentalists and

other interested parties. The group will provide advice on all aspects of the project. The first meeting of the working group was held on February 7 and the second meeting is scheduled for early April.

The project involves investigating alternative non-copper coatings. Zinc based coatings have begun to be used and are being commercialized. Other coatings containing non-metal biocides are also starting to be tested and marketed. Finally, still other coatings, so-called "smooth" coatings that resist attachment of marine organisms, are emerging. The smooth coatings contain no biocides. IRTA and the Port plan to test these three types of coatings during the project.

The first step in the project is to test the alternative coatings on panels at a location in the SIYB. The panel testing will be initiated in June. The coatings that perform well will be applied to boats the following spring and summer.

The project is very important because high dissolved copper concentrations have been found in other marinas throughout the state. The results of this project will be used to decide on the best method of reducing the copper loading in the SIYB and they may be able to be translated to other marinas as well.

For more information on the project, contact Katy Wolf at IRTA at (818) 244-0300.



PERC Dry Cleaning Alternatives Free EXPO!

Sunday, May 18th, 2008 9:45 A.M. to 3:30 P.M.

Southern California Edison's Customer Technology Application Center (CTAC)
6090 North Irwindale Ave., Irwindale, CA 91702

Featuring Water-Based and Carbon Dioxide Technologies.
Attendance is Free. Continental Breakfast and Buffet Lunch will be Provided.

To register as an attendee or reserve a free vendor table,
call: 818-244-0300 or email irta@earthlink.net

IRTA to Complete Autobody Project

IRTA has been conducting a project, sponsored by Cal/EPA's Department of Toxic Substances Control (DTSC), that focuses on the autobody industry. The South Coast Air Quality Management District (SCAQMD) has adopted a regulation that requires autobody facilities to convert to low-VOC base or color coats by July. Water-based base coats have been used in Europe for several years and the coating suppliers have adopted or modified the European coatings and are in the process of converting the industry. The San Joaquin Valley Air Pollution Control District has also adopted a regulation requiring the conversion and other air districts throughout California are expected to adopt similar regulations over the next few years.

In the DTSC project, IRTA is focusing in three areas. First, IRTA has demonstrated that very low VOC and low toxicity alternative thinners and cleanup materials can be used with the solventborne coatings used by the industry. Second, IRTA is working with a few autobody shops to estimate the performance and cost of the alternative water-based base coats. The results indicate that the coatings take longer to dry but they perform very well, perhaps better than the solventborne base coats used for many years. The cost of using the alternative coatings is comparable or somewhat higher

than the cost of using the solventborne base coats. Third, IRTA has been testing a dust control technology developed by a company called Mirka with three autobody shops. This technology is an alternative sanding material used with a vacuum that minimizes particulate emissions. It reduces worker exposure, reduces particulate matter (PM) emissions, prevents the dust, which may be classified as hazardous waste, from being disposed of improperly and prevents the dust from entering the storm water. Virtually all technicians who use the alternative sanding discs prefer them over the traditional sanding discs.

Two companion articles in this newsletter are case studies describing the results of IRTA's work with one of the autobody shops participating in the project. Seidner's Collision Centers have 11 autobody shops in the greater Los Angeles area. The company has adopted water-based base coats at several of their facilities and the results are presented in one of the case studies. The company has also adopted the dust control method at four of their shops and the results are described in the second case study.

The final project report should be completed in July. Look for other case studies in the July Alternative. For more information, contact Katy Wolf at IRTA at (818) 244-0300.



Seidner's Collision Centers Convert to Mirka Sanding Material

Seidner's Collision Centers operates 11 autobody repair facilities in the Southern California area. The shops repair cars and the different locations process between about 75 and 300 cars per month.

Autobody shops use sanding discs as part of the repair process. Technicians use plastic fillers to fill in holes and smooth out damaged parts and the plastic filler must be sanded prior to coating. The technicians also sand the primer after it is applied to the cars.

As part of a project sponsored by Cal/EPA's Department of Toxic Substances Control, IRTA worked with Seidner's Collision Centers to test an alternative sanding technol-

ogy. The alternative technology, called Abranet, which is manufactured by Mirka, is very effective in minimizing dust emissions during sanding. The discs are flat like other conventional coated abrasive products. They are made of aluminum oxide with a resin over resin bonding. The discs are used with a vacuum and a six-inch disc has 24,000 holes. This can be compared with a conventional technology that has six holes for collecting the dust.

"The Abranet product reduces dust generation substantially," says Gene Lopez, Director of Development for Seidner's Collision Centers. "We are using the product in four of

(see *Seidner's Mirka Conversion* page 6)

Seidner's Collision Centers Convert to Waterborne Base Coats

Seidner's Collision Centers operates 11 shops in the South Coast Basin. The South Coast Air Quality Management District adopted a regulation that requires autobody shops in their jurisdiction to convert to lower VOC waterborne base coats by July of 2008. IRTA began work with the company on a project sponsored by Cal/EPA's Department of Toxic Substances Control.

The company is converting the shops one-by-one to the waterborne base coats, starting with the smaller shops. This way, when a shop converts, the remaining solvent-borne base coat inventory can be given to the other shops to use up. "The coatings are expensive and we want to use the solvent-borne coating supplies before all the shops convert," says Gene Lopez, Director of Development for Seidner's Collision Centers.

At the first Seidner's shop that converted, the painter indicated that he likes the new waterborne coatings and that he believes the colors match better. At two additional shops that made the conversion, the painters are also happy with the new waterborne coatings. Both painters said there is a short learning curve and that once they understood the new characteristics of the coatings, they were able to adapt quickly. The new coatings require more airflow to dry and all three facilities that have converted have purchased portable air driers for use in the booths. In some cases, the airflow in the booths was also increased.

Conversion to the new waterborne base coats requires the use of two cleaning systems. The spray guns used to apply primer and top-coat, which are still solventborne coatings, are cleaned with solvent as is traditional. When the spray gun is used to apply the waterborne base coats, it is cleaned with tap and deionized water provided by the suppliers. Says Mr. Lopez, "we have two cleaning systems but the painters adjusted to it quickly."

IRTA analyzed the conversion costs for one of the shops, located in Alhambra, with Mr. Lopez. "We had to purchase equipment to increase the air flow in the booths, a new compressor and four air line dryers," he said. "Our

costs at Alhambra have increased somewhat but the conversion was straightforward. The painter at the shop had a short adjustment period and is happy with the new coatings."

The table below shows the number of cars repaired and the cost of liquid material per car for a few months before and after the conversion at the Alhambra Shop in July 2007. Leaving out July, the cost of liquid materials per car was averaged for the period December 2006 through June 2007 and the period August 2007 through November 2007. Says Mr. Lopez "using this method of comparison, our costs increased by about six percent after the conversion. The real cost may have been somewhat higher because we had to purchase new air flow systems and related equipment."

| Cost of Liquid Material Per Car | | |
|---------------------------------|----------------|----------|
| Date | Number of Cars | Cost/Car |
| December 2006 | 92 | \$59.39 |
| January 2007 | 114 | \$70.22 |
| February 2007 | 96 | \$72.28 |
| March 2007 | 134 | \$70.04 |
| April 2007 | 93 | \$56.49 |
| May 2007 | 147 | \$68.66 |
| June 2007 | 126 | \$59.49 |
| July 2007 | 121 | \$56.57 |
| August 2007 | 124 | \$60.06 |
| September 2007 | 91 | \$76.90 |
| October 2007 | 127 | \$60.87 |
| November 2007 | 97 | \$79.12 |

"The conversion to waterborne coatings has been good," says Mr. Lopez. "We all have to try to use greener processes. They are better for the environment and for the workers."

SCAQMD Begins Development of Regulation on Lubricants and Rust Inhibitors

The South Coast Air Quality Management District (SCAQMD) plans to assemble a workgroup and begin development of a regulation for lubricants and rust inhibitors in April. The District is currently sampling products to establish an inventory of VOC emissions for this category.

IRTA completed a project, sponsored by SCAQMD and EPA, that focused on low-VOC, low toxicity alternatives to VOC based rust inhibitors

and vanishing oils about a year ago. IRTA had conducted an earlier project, sponsored by EPA, that addressed alternatives to VOC emitting lubricants. IRTA worked with several industrial facilities and identified, tested and demonstrated alternatives in all applications. The alternatives were generally water-based, vegetable based or acetone based products. Several of the facilities that participated in the two projects decided to

convert to the alternatives. A report summarizing the results of the projects is on IRTA's website at www.irta.us.

IRTA plans to participate on the SCAQMD working group for this rule. For more information on the SCAQMD rulemaking, contact Mike Morris at SCAQMD at (909) 396-3282. For information on alternative lubricants and rust inhibitors, contact Katy Wolf at IRTA at (818) 244-0300.



Seidner's Mirka Conversion (continued from page 4)

our shops for sanding plastic filler and we plan to implement it in the future for primer."

IRTA talked with several technicians who are using the Mirka sanding discs at different Seidner shops. All of the technicians indicated they preferred the new product. According to one technician "even though I have to use a vacuum with the new sanding discs, I like it better." The technicians cite three advantages of the new technology. First, they are exposed to

much less dust since the Mirka technology significantly reduces or eliminates dust generation. Second, they use fewer sanding discs because the Mirka product lasts longer. Third, they can reuse the discs because they use a hook and loop attachment method.

Says Gene Lopez "we've been using the new sanding technology for several months now and it is less costly to use. The discs themselves are lower cost, they last longer and they can be

reused." He estimates the reduction in cost for using the new technology for sanding filler at 25 to 50 percent. Seidner's Collision Centers are committed to using new technology that improves health and the environment. "This technology reduces worker exposure to dust and prevents dust from entering the waste stream or the storm water," says Gene Lopez. "On top of the advantages, it is less costly to use than the conventional sanding technology."



Need help finding an alternative?

IRTA assists firms in converting to suitable alternatives in cleaning, paint stripping, coating electronics and adhesive applications.

For more information, visit us on the web at: www.irta.us
or contact us at: 818-244-0300

CARB Decides Not to Regulate Paint and Lacquer Thinner

The California Air Resources Board (CARB) is developing a regulation that will affect a number of consumer products. The proposed regulation will be considered by the CARB Board in June. The consumer product regulation is part of a state strategy commitment to reduce VOC emissions by 30 to 40 tons per day (tpd) by 2014.

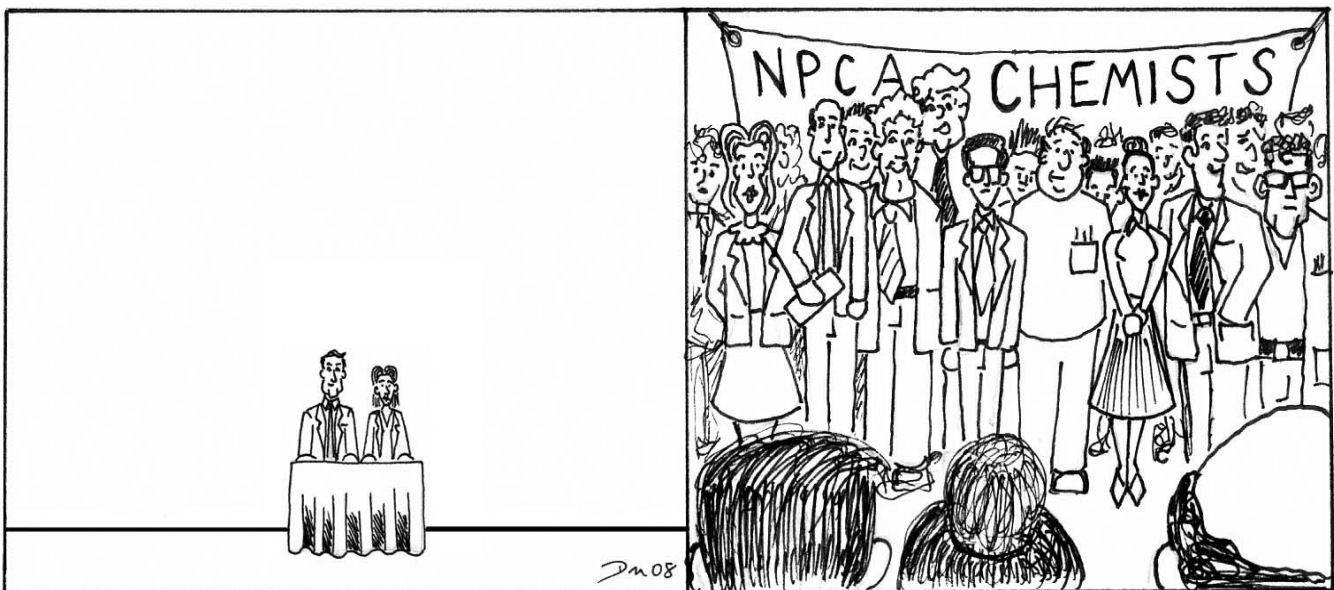
The proposed regulation will affect 20 categories of consumer products and will achieve a reduction in VOC emissions of 5.4 tpd. The regulation would also prohibit the use of perchloroethylene, methylene chloride and trichloroethylene which are carcinogens. The reduction in these toxics would amount to 0.23 tpd in 2010.

CARB had originally proposed establishing a VOC limit of three percent for paint and lacquer thinner in the current rulemaking. This action would result in a VOC emissions reduction of about 13.6 tpd. IRTA conducted a project, sponsored by Cal/EPA's Department of Toxic Substances Control (DTSC), which focused on identifying, developing and demonstrating low-VOC, low toxicity alternatives to consumer product paint

and lacquer thinners for cleaning and thinning applications. IRTA found effective alternatives that were generally based on acetone and acetone blends. The report describing the results of the paint and lacquer thinner alternatives project is on IRTA's website at www.irta.us. The National Paint and Coatings Association (NPCA) submitted a letter to CARB protesting the regulation of paint and lacquer thinner products and CARB indicated to IRTA that they agreed with the points made by NPCA. CARB decided to not regulate paint and lacquer thinner at this time.

At a CARB workshop held on March 5, CARB announced they would convene a workgroup for paint and lacquer thinner to evaluate and resolve the issues involved in regulating this category. IRTA will participate on the workgroup. CARB may decide to regulate paint and lacquer thinner in a subsequent rulemaking scheduled for November.

For more information on paint and lacquer thinner alternatives, call Katy Wolf at IRTA at (818) 244-0300.



IRTA Developed Low-VOC Alternatives for Paint and Lacquer Thinner

Large Coating Manufacturers Say They Cannot Develop Low-VOC Alternatives

CALENDAR

March 31-April 3

Westec 2008 Exposition & Conference, Los Angeles Convention Center, Los Angeles, CA. For information visit: www.sme.org

April 1

Meeting of the Science Advisory Panel for Cal/EPA's Department of Toxic Substances Control's Green Chemistry Initiative.

April 2

Stakeholder Workgroup Meeting for the "Safer Alternatives to Copper Antifouling Paints" project, 9:00AM to 12:00PM, Port of San Diego Administration Building, 3165 Pacific Hwy, San Diego, CA. For information, call Karen Holman at (619) 725-6073

April 22

Earth Day

May 18

PERC Dry Cleaning Alternatives EXPO, Southern California Edison's CTAC facility, 6090 North Irwindale Ave., Irwindale, CA. For information, call IRTA at (818) 244-0300.

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: \$ _____
- I would like to receive more information about IRTA. Please send me a brochure.
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