

The Alternative

IRTA Newsletter

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SCAQMD to Hold Symposium on Toxic Risk from Exempt Chemicals

The South Coast Air Quality Management District (SCAQMD) is planning a Symposium "Assessing and Managing Toxic Risk from Alternative VOC Compounds." It will be held on October 29 at the SCAQMD Diamond Bar Headquarters.

VOC emissions contribute to the formation of smog or ozone in the lower atmosphere. Over the last several years, SCAQMD has adopted stringent limits on the VOC content of cleaners, coatings, adhesives, sealants, inks and lubricants. In many cases, suppliers have relied on exempt chemicals to formulate their products to meet these lower VOC limits. Exempt chemicals are those that do not contribute significantly to ozone formation. If there are stringent VOC limits in place, suppliers will reformulate their products with exempt chemicals to meet them and the use of such chemicals will increase substantially. In effect, when an agency exempts a chemical in an area with low VOC limits, it promotes the use of the chemical. This means that more people are exposed to it.

EPA must first exempt a chemical from VOC regulation and then California agencies, in many cases, follow suit. In considering whether or not to exempt a chemical, it is EPA's policy to consider only atmospheric reactivity; the agency does not take into account other factors, like ozone depletion, global warming or toxicity. In California, the air agencies have policies that allow them to take into account other factors. The California Environmental Quality Act (CEQA) actually requires them to do so. The SCAQMD, when it evaluates a chemical for possible exemption, has always considered the risk to the surrounding community and to off-site workers. More recently, the District has acknowledged that their action in exempting a chemical may also affect workers applying or using the chemical.

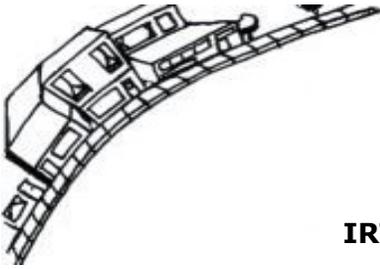
The issue of exempting chemicals has emerged in two recent rulemakings at SCAQMD. These

include Rule 1107 "Coating of Metal Parts and Products" and Rule 1168 "Adhesive and Sealant Applications." In both rulemakings, the District proposed exempting tert-butyl acetate (TBAC) and dimethyl carbonate (DMC) for certain applications. TBAC forms a metabolite, tert-butyl alcohol, which is a carcinogen and DMC is a developmental toxin. IRTA has strongly argued against these exemptions because of the high risks posed to the surrounding community, the off-site workers and, particularly, the workers using them. Because of the toxicity issues, the two rules were not amended.



The purpose of the SCAQMD symposium is to provide the District with expert advice and possible future direction on the analysis and mitigation of toxic risks posed by exempt chemicals. It will include presentations from experts from the regulatory, industrial, academic and environmental communities to explore the critical issues from different perspectives.

For more information on the exempt chemicals issue, contact Katy Wolf at IRTA at (323) 656-1121. For more information on the symposium and to sign up for the email list, access <http://www.aqmd.gov/home/regulations/compliance/vocs/optintoxsymp>.



Small Business Corner

IRTA Partners With Collaborative and Nail Salons

A few months ago, IRTA started a project to develop and test one or more alternative nail polish removers. The project is sponsored by the Paul H. Johanson Fund and the Bay Area Air Quality Management District.

IRTA is working on the project with the Healthy Nail Salon Collaborative. The Collaborative has played a critical role in bringing attention to the toxic materials nail salon workers are exposed to as part of their jobs. They have fostered a program called "Three Free" which encourages nail salons to use products without three toxic chemicals, dibutyl phthalate, formaldehyde and toluene, used in nail products. Suppliers now offer "three free" products and some salons have adopted them. A few cities in California have established programs to recognize salons using these products.

The Collaborative is assisting IRTA in identifying nail salons that are willing to test alternative nail polish removers for the project. Three salons will be involved in the testing. Two are in the Bay Area and one is located in Santa Monica in Southern California. IRTA is also working with the San Francisco Department of the Environment and the City of Santa Monica on the project.



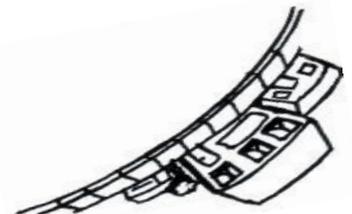
Many salons and consumers are relying on a new type of nail product called gel nail polish. These are acrylic materials that are

cured with ultraviolet light devices that are in most nail salons and can be purchased in beauty supply stores. Many salons and customers prefer the gel nail polish because it is extremely durable and lasts up to two weeks. Because of the durability, however, the polish needs to be removed with a very aggressive process that includes an acetone wrap. This involves using a cotton ball soaked in acetone on the nail and wrapping it in foil for 10 or 15 minutes. The same process is used by consumers who do their own nails. Acetone, although it is fairly low in toxicity, is absorbed through the skin which can cause problems.

IRTA is currently conducting preliminary testing of alternatives and plans to test any that prove promising with the three nail salons recruited for the project. IRTA also plans to test promising alternatives with consumers.



For more information on the project, contact Katy Wolf at IRTA at (323) 656-1121.



Report on Safer Alternative Graffiti Management Available

IRTA recently completed a project, sponsored by EPA Region IX, the Bay Area Air Quality Management District and the San Francisco Department of the Environment, which focused on finding safer alternative methods of controlling graffiti. Graffiti management is a resource intensive and expensive problem for many agencies and private companies and better and safer methods of control need to be identified.

The final project report, entitled "Safer Alternative Graffiti Management Methods for California," is now available on IRTA's website at www.irta.us. Three fact sheets are also available on the website. They include:

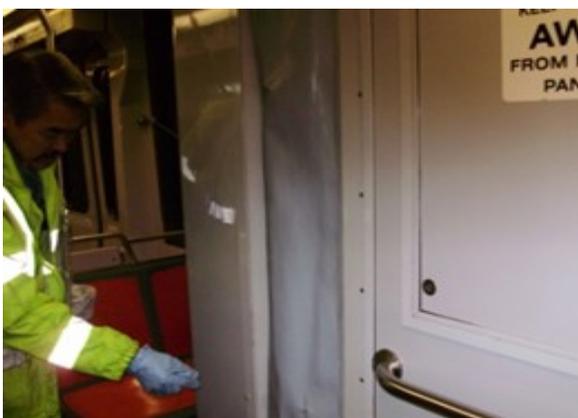
- "Graffiti Removal: Alternative Blasting Systems;"
- "Graffiti Removal: Safer Alternative Graffiti Removers;" and
- "Graffiti Removal: Films and Graffiti Resistant Coatings for Protecting Surfaces"

The results of the project were described in the last issue of *The Alternative*. Two alternative blasting systems were demonstrated during the project. They include dry ice blasting and crushed recycled glass blasting. These two technologies generate less waste than soda blasting, the method most widely used today. The crushed recycled glass system is more aggressive than soda blasting so more graffiti can be controlled using the alternative system.

As part of the project, IRTA developed five graffiti removers based on soy, benzyl alcohol and acetone. These graffiti removers were tested and found to be effective for different types of graffiti removal. IRTA also tested several graffiti removers listed on the San Francisco Department of the Environment website. The commercial graffiti removers are best at removing light spray paint and they are most effective on metal substrates.

Films and graffiti resistant coatings have a role in controlling graffiti. Films can be used to protect glass in some cases and on street signs. The coatings may be useful on certain masonry surfaces or other sensitive surfaces that would otherwise be damaged by graffiti removers.

For more information on the project results, contact Katy Wolf at IRTA at (323) 656-1121.



Visit our website: www.irta.us Read back issues of *The Alternative* and recently completed reports.

DTSC Issues Priority Product Work Plan

The California Department of Toxic Substances Control recently released a Priority Product Work Plan which is a requirement in the DTSC Safer Consumer Products (SPC) regulations. The work plan is a description of certain product categories DTSC will evaluate to select product/chemical combinations that will be added to the Priority Products list during the next three years. DTSC defines a Priority product as a consumer product that contains one or more Candidate Chemicals that have a hazard trait that could harm people or the environment.

DTSC has identified seven product categories with certain specified subcategories for consideration. The categories include:

- Beauty/Personal Care/Hygiene
- Building Products
- Cleaning Products
- Fishing and Angling Equipment
- Clothing
- Household/Office Furniture/Furnishings
- Office Machinery Consumable Products

DTSC indicates that there are products that contain Candidate Chemicals in this list and they may have extensive use that could cause adverse impacts in California. In the Cleaning Products category, for instance, the listed subcategories are fresheners/deodorizers, cleaners, laundry and surface care. The subcategories for building products are flooring, painting and sealants/fillers/adhesives. This Work Plan is the first step. DTSC will select the Priority Products from the categories after stakeholders have input and DTSC conducts additional research. Over the next three years, DTSC intends to select no more than 10 products per year.

DTSC issued a proposed list of the first three product/chemical combinations on March 13 of this year. They include:

- Spray polyurethane foam (SPF) systems containing unreacted diisocyanates
- Children's foam padded sleeping products containing tris (1,3-dichloro-2-propyl) phosphate or TDCPP
- Paint and varnish strippers and surface cleaners with methylene chloride

DTSC has held several workshops and received comments on the three combinations and expects to initiate the rulemaking process by next March.

Need help finding an alternative? IRTA assists firms in converting to suitable alternatives in cleaning, paint stripping, coating, thinning, dry cleaning and other applications

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IRTA conducted a project some years ago to find, test and demonstrate alternatives to methylene chloride and N-methyl pyrrolidone (NMP) in consumer product paint strippers. Methylene chloride is a carcinogen and NMP is a reproductive and developmental toxin. IRTA found alternatives that are based on benzyl alcohol that could replace both chemicals. The final project report can be found on IRTA's website at www.irta.us. The product/chemical combination DTSC has selected is strippers using methylene chloride. The description of this category indicates that DTSC wants to discourage the use of NMP but they have not specifically listed it. NMP formulations are on the market and, if DTSC bans the use of methylene chloride strippers, the industry will simply offer the NMP formulations that are already being sold.



The Priority Product Work Plan for the next three years described above does not include strippers so DTSC is apparently not planning to ban the use of NMP in the near future. One of the major purposes of the Safer Consumer Products regulations was to eliminate the problem of regrettable substitutes or substituting something that is dangerous in a different way. Unfortunately, in this case, DTSC has failed in this aim and a ban on methylene chloride will promote the use of NMP which is certainly a regrettable substitute.

For more information on the Priority Products Work Plan, access DTSC's website at www.dtsc.ca.gov. For more information on alternative paint strippers, contact Katy Wolf at IRTA at (323) 656-1121.

IRTA Works With Coating Supplier to Apply Floor Coatings

IRTA is working on a project with the Western Sustainability and Pollution Prevention Network (WSPPN) on alternative floor wax strippers or methods of reducing or eliminating the use of floor wax strippers. The project is sponsored by EPA Region IX and the Bay Area Air Quality Management District. IRTA is testing alternatives with various school districts and public agencies in Northern and Southern California.

Nearly all of the schools and public agencies have installed vinyl composition tile (VCT) on their floors. VCT is used because it has a very low initial cost. The problem is that VCT, to exhibit high gloss which is desirable, must be waxed and stripped on a regular basis. This type of flooring requires significant use of floor wax strippers. Even though the initial cost of the VCT is low, the regular maintenance cost of waxing and stripping the floors is high.

IRTA is working with two different floor wax stripper suppliers to develop alternative strippers that will meet the criteria specified in the South Coast Air Quality Management District (SCAQMD) certification requirements for janitorial products. In that program, products must meet a VOC content limit of 10 grams per liter and comply with other limits for various toxic components and other atmospheric and surface water pollutants.

The California Air Resources Board (CARB) regulates the VOC content of floor wax strippers in California. The CARB Consumer Product Regulation specifies that strippers must have a VOC content of 12 percent or less for a heavy buildup of wax and 3 percent or less for a medium or light buildup of wax. The CARB regulation does not consider certain low vapor pressure (LVP) materials to be VOCs. The SCAQMD criteria, in contrast, considers many LVPs to be VOCs. Virtually all the floor wax strippers currently sold in California have a VOC content that far exceeds the VOC limit set in SCAQMD's certification criteria. Nearly all strippers also contain monoethanolamine at levels that are not acceptable in the SCAQMD criteria because of a limitation on nitrogen content. Furthermore, monoethanolamine causes asthma and, for that reason, it should not be used in the products. IRTA is working with suppliers to try to find strippers that will satisfy the SCAQMD criteria and it is a challenging effort.

In addition to finding safer alternative floor

wax strippers, IRTA is examining two other options. First, the VCT flooring can be replaced with alternative flooring that does not require waxing or stripping. The alternative flooring has a higher initial cost but the maintenance cost is much lower. Schools and public buildings are reluctant to replace the VCT flooring, however, until the useful life is at an end. For these situations, the second option may be viable. Under this option, coatings can be applied to the VCT and the coatings do not require waxing or stripping so they offer the same low cost maintenance option. These coatings can last for several years, depending on the type of coating.

IRTA is working with several schools and public buildings to test alternatives. One of these, Riverside Unified School District, is interested in pursuing all three options, including alternative floor wax strippers, alternative flooring and coatings for the VCT flooring. IRTA and Riverside are installing alternative flooring in a heavily used hallway at one of the Riverside schools. IRTA and Riverside also applied three different types of coatings on some of the VCT in this same hallway. The intent is to monitor the alternative flooring and the coatings for the entire school year to see how they hold up.

IRTA wanted to apply different types of coatings to see if they would be able to protect the floor and to investigate how often they need to be reapplied. The local air districts regulate the VOC content of these floor coatings and several of the floor coatings IRTA examined did not meet the low VOC requirements. In addition, some of the floor coatings contain a solvent, tert-butyl acetate, which can cause cancer. IRTA wanted to test coatings that had low VOC content without tert-butyl acetate.

The supplier of the alternative coatings for the Riverside school district testing is NeverStrip Floor Coatings and the products all meet the stringent VOC limits established by the SCAQMD and the Bay Area Air Quality Management District. The three types of coatings that were applied on the VCT in the Riverside school hallway recently include a vinyl seal, a polyurethane coating and a UV curable coating. This is the first application of the UV coating, which is new for this purpose. IRTA and the supplier will use a protocol that includes talking with the maintenance staff and examining the durability of the flooring once a month over the school year.

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The vinyl seal is likely to last a shorter time than the polyurethane coating. The UV curable coating is likely to last even longer before another application is needed. These coatings do not require wax to be applied and the maintenance regime is simply to clean them with plain water or a neutral water-based cleaning solution on a regular basis. The polyurethane and UV curable coatings have a very high gloss and the vinyl seal has a lower gloss.

For more information on the coatings that are being tested, call Katy Wolf at IRTA at (323) 656-1121.

Calendar

October 20-21

Cal/EPA's Department of Toxic Substances Control Green Ribbon Science Panel Meeting, Sacramento, CA. Discussion will include Priority Product Work Plan product categories. For information, access DTSC's website at www.dtsc.ca.gov for Safer Consumer Products.

October 29

South Coast Air Quality Management District Symposium "Assessing and Managing Toxic

Risk from Alternative VOC Compounds," South Coast Air Quality Management District Headquarters in Diamond Bar, CA. To sign up for the mailing list and symposium, go to <http://www.aqmd.gov/home/regulations/compliance/vocs/optintoxsymp>.

October 30

South Coast Air Quality Management District Working Group Meeting for Proposed Amended Rule 1113 "Architectural Coatings," South Coast Air Quality Management District Headquarters in Diamond Bar, 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!

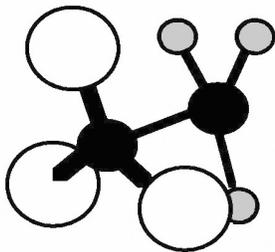
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