



NEWSLETTER---

## THE CHEMICAL CONSULTANT

Association of Consulting Chemists & Chemical Engineers

Volume 11, Number 7 & 8

July/August 1999

### **BALANCE THE ISSUES TREE HUGGERS VERSUS CHEMICAL BUSINESS**

Is it fair that the words "deadly", "toxic" and "dangerous" so often appear before the word "chemical" in the headlines and lead sentences of news and feature stories broadcast to the general public? Is there any way to present more complete information to the audience? We say that there is.

Chemicals and the chemical industry have been under attack for a long time. Advocates for the public interest and their organizations have generated broad support through television, radio, newspapers and direct mail. There are spokespersons for reason, factual evidence and the kind of public interest represented by inexpensive and safe food, miracle medicines and packaging materials. They have been at work only fairly recently.

These efforts to balance the scales deserve more involvement from people and organizations with the kinds of education, knowledge and experience that can provide the missing information. Our free and open system of speech in this country allows contrary opinions on a subject to be expressed and argued. Weighty decisions made by government regulators, charitable foundations and the purchasing public hang in this balance. All sides of this complex issue must be represented.

There are many of the attacking organizations. You will recognize some of their names: Sierra Club, Friends of the Earth, Public Citizen, Environmental Defense Fund, and the most flamboyant: Greenpeace. (See article Greenpeace and Chlorine). Their motivation is hard to characterize. Love of nature in the wild is one. A distrust and hatred of business and economic institutions seems to be another. Well-meaning scientists and specialists often lend or are paid for their support.

Many organizations and companies are adding weight to the other pan of the balance. Among them are: CMA (Chemical Manufacturers Association); an organization called "Chlorophiles"; Dow Chemical; and the medical products company Baxter Healthcare Corporation. (See another article Baxter Educates). These parties obviously are economically motivated. They are also responsible corporate and personal citizens. Their scientists, engineers and lawyers see that products and operations serve the public well and are not harmful to users or the environment.

Proper and responsible defense of chemicals and the chemical industry is a very important issue for the future because of another aspect: education of the young citizens. Trends in career choice are showing a decreasing interest in hard science majors and engineering while interest in the topics of

computer technology and business are rising.

We have watched for the past 30 years as teachers in grade and high schools have been emphasizing environmental issues. They themselves often have had little technical education or training in the realities of pollution, public health, recycling and other topics they have urged their students to place high value on. At the same time they were not giving equal emphasis to subjects like biology, chemistry or physics. The students grew up oriented toward care for the environment but with insufficient interest in or ability to deal with a hard truth: a thriving economy must balance the bad with the good in order to expand and prosper.

We will continue to watch for those who understand the need for balance and, having a stake in the economic future of society, will see to it that the extremists of worry and doom do not have the field to themselves. We will report both sides of the action as new things happen.

### **BAXTER EDUCATES ON PVC**

Here is what Baxter Healthcare Corporation had to say on April 8 this year about using PVC in its products.

We are profoundly disappointed in the misrepresentations that have been made in recent months concerning Baxter's materials development efforts and its use of polyvinyl chloride (PVC) in its products. The recent statements made by activist groups are inaccurate.

In April, Baxter International Inc. and three institutional shareholders -- the Retirement Plans for the Employees of the Sisters of Mercy Regional Community Center of Detroit, the Sisters of Charity of Cincinnati and the Service Employees International Union (SEIU) Master Trust -- jointly announced an agreement that seeks to clarify Baxter's ongoing and future plans for research and development of additional medical products with non-PVC materials through the establishment of a timetable and benchmarks.

Specifically, the Memorandum says, 'Baxter is committed to exploring and developing alternatives to PVC products and to developing and implementing proposed timetables for substituting its current containers for intravenous solutions with a container that does not contain PVC.'

Baxter simply views this non-binding agreement as an opportunity to promote the materials development efforts it has already had in place for many years.

As stated in the April 6 press release, Baxter continually evaluates a variety of materials and allocates significant funding for the research and development of biomaterials. Continuing its decades-long efforts in the field of materials research and development, Baxter plans to develop and introduce many products over the next decade that use a variety of materials. Baxter already offers more than a dozen vital medical products that use alternative materials, including blood platelet storage containers, empty containers for compounding pharmaceutical and nutritional solutions, and such premixed medications as Ancef® , Pepcid®, Rocephin® and Vancocin®.

Our Viaflex® container has been the industry standard for intravenous solutions for nearly 30 years because of its excellent safety and performance record. As any smart company does, we are always

looking to obsolete our own products and offer our customers additional features. We continue to explore and develop materials that will do just that -- provide superior safety and performance and offer even greater optical clarity, efficiency and ease of manufacturing. That these materials do not contain PVC has nothing to do with the unwarranted concern raised by activist groups regarding the safety of PVC.

In many applications, PVC remains the material of choice because of its long history of safe use, and because of its outstanding performance characteristics. In instances where the overall performance and safety of another material is proven superior to PVC and regulatory clearance is obtained, we will offer alternatives to our customers.

Medical products containing PVC have undergone strict regulatory review by many government and independent health agencies throughout the world, including the U.S. Food and Drug Administration (FDA). Hundreds of studies have confirmed the safety of this material in medical applications. Health Canada has stated that it, "has found no potential risk for patients in using blood products or IV solutions from PVC bags." The director of the FDA's Center for Devices and Radiological Health said last month, 'We believe that IV bags, blood administration sets and the other uses of PVC, including dialysis tubing are safe.'

Health-care providers and their patients are best served by a reasoned, science-based approach in the development of medical products. That is the approach that we have Always taken, and the approach we have shared with these shareholders.

We plan to remain a pioneer in materials research and we will continue to provide our customers with products made from the most appropriate materials, taking into careful consideration the unique characteristics of the solutions going into the containers, the performance characteristics required, and scientific data.

## **GREENPEACE AND CHLORINE**

Consult the web site of Greenpeace and you will find its Mission Statement: "Greenpeace is an independent campaigning organization that uses non-violent, creative confrontation to expose global environmental problems, and to force solutions that are essential to a green and peaceful future."

The organization's "creative confrontation" and "force solutions" activities seem to have gone way beyond reason and objectivity when it comes to some issues. Element 17, Chlorine, has been the target of a world-wide campaign by Greenpeace.

The home page of the web site of Greenpeace has five buttons labeled JOIN, CLIMATE, FORESTS, OCEANS, TOXICS. When the button "Toxics" is clicked, this appears:

"Chlorine Lifecycle

"Step 1: Chlorine. Many of us think of swimming pools when we hear the term "chlorine." Few people realize, however, that chlorine is the root of many of today's worst environmental problems, including persistent organic pollutants (POPs) and the ozone hole. Many chlorine-based compounds

are toxic and are not found naturally in the environment.

"Step 2: Industrial Uses of Chlorine Much of the chlorine produced by chemical industries goes to making PVC (polyvinyl chloride) plastic, commonly known as "vinyl." Other major uses of chlorine include dry cleaning, which utilizes a toxic chlorine-based solvent called perchloethylene ("perc"), and pulp and paper production.

"Step 3: PVC Products PVC is used to make a number of products, including toys, construction materials and medical supplies.

"Step 4: Disposal: Incineration of PVC When PVC is burned it generates dioxin -- the most toxic compound known to science.

"Step 5: Dioxins Are Dangerous! Dioxins are extremely toxic chemicals that are linked to a number of serious illnesses, including cancer, endometriosis, infertility and sperm count s, diabetes and immune system suppression.

"Step 6: Dioxins Spread across the Planet Dioxins travel long distances on air and ocean currents, making them a global problem.

"Step 7: The Solution: Eliminating Dioxin The United Nations is currently negotiating a treaty that could help eliminate POPs, including dioxin, from the environment. Unless toxics such as dioxin are eliminated, the risks to humans and animals will continue to grow."

The remark in Step 3, above, was the basis for a Greenpeace Greenpeace press release containing the following text: "WASHINGTON, DC, April 6, 1999 -- Greenpeace today applauded the announcement by Baxter International Inc., one of the world's largest medical supplies manufacturers, that it will phase out intravenous (IV) bags made from polyvinyl chloride (PVC) or vinyl ... The Baxter announcement comes amid increasing awareness of two major hazards associated with PVC: the leaching of toxic additives from vinyl products such as IV bags and children's toys, and the release of the carcinogen dioxin when vinyl is manufactured and incinerated."

The response of Baxter is covered in another article in this issue.

## **CHEMICAL SAFETY TESTS ON ANIMALS**

Procter and Gamble says it has spent nearly \$100 million over the last 15 years to develop alternate household product safety test methods that do not use animals. It reports that it is ready to substitute these tests for the traditional ones using rabbits, mice, guinea pigs and other mammals and birds. Animal rights advocates expressed reserved praise but pointed out that many other P&G competitors have already made this move and that it covers only 80% of the company's household products.

A "corrosivity" test that is now endorsed by many US government agencies uses a synthetic "bio-barrier" membrane. This membrane simulates skin tissue. This test may be among those to be used by P&G.;

In the corrosivity test the product or solution being tested is on one side of the barrier and an indicator fluid on the other. The penetration time of the product is indicative of the effect it would have on human skin. This test has been endorsed by a US government panel and accepted by the National Institute of Environmental Health Sciences, the National Toxicology Program, and 13 other federal agencies.

The test is accepted by the Department of Transportation (DOT), the Occupational Safety and Health Administration (OSHA), the International Air Transportation Association (IATA) and Transport Canada. These agencies work to set safety labeling in transportation. Similar regulatory activity on skin corrosivity testing is actively being pursued in Great Britain and the rest of Europe.

## **SUPERCRITICAL CO2**

Some say that this hot weather proves that global warming is caused by carbon dioxide from civilization's activities. That may or may not turn out to be true but this CO<sub>2</sub>, which is both "natural" and "organic" (think trees) is very useful and surprisingly versatile. What do people use when the blackout shuts down the freezers? They run for the dry ice, carbon dioxide! What puts the fizz in your gin and tonic? What puts out fires and leaves no residue? Carbon dioxide!

Notice of a special form of CO<sub>2</sub> is appearing in the technical press now. This is a dense form of carbon dioxide-- supercritical CO<sub>2</sub>--with properties of both liquid and gas when temperature is above 31 degrees Celsius and pressures is above 74 atmospheres.

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Surprisingly, liquid CO<sub>2</sub> solvent technology is already commercial in the comparatively mundane field of dry cleaning. A company named Micelle Technologies in North Carolina is promoting a system that dry cleans clothing with a mixture of liquid CO<sub>2</sub> and specialty surfactants in a special pressurized machine. Already several retail dry cleaners are using Micelle's machines and technology.

A competing CO<sub>2</sub> dry cleaning process, called DryWash, developed by Los Alamos National Laboratory and Raytheon Environmental Systems, is being marketed by company called Global Technologies.

Liquid CO<sub>2</sub> is in use in spray coating. Spraying paints and other coatings from supercritical CO<sub>2</sub> has been commercial since 1991 using the Unicarb process of Union Carbide. Initial applications were in spraying paint and other industrial coatings or even chocolate on cookies, and additives on food.

## **DROP BOX WORRIES**

Many business persons use Mail Boxes, Etc. or another mailing service to provide a mailing address other than their own home. It may part of a package of other services or it may be an effort to be

identified with a location that implies more prestige. Another advantage is that using such an address separates one's business correspondence from one's personal mail and packages.

A recent order by the United States Postal Service created a potential disruption in this long-standing practice. The USPS, concerned about frauds that are abetted by the anonymity factor of a "drop box", have issued an order that users of a Commercial Mail Receiving Agency Mail (CMRA) must register their identity with the postal service. To force compliance, the new regulation would have required that any mail addressed to such a blind address must be marked PMB (private mailbox) or the postal service would not deliver it but return it to the sender.

As a result of the proposal hundreds of persons and companies rose to object. Objections were for wide-ranging reasons. Many cited the huge expense and difficulty of compliance. The strongest one cited invasion of privacy and the potential for all sorts of harmful acts that could stem from other persons' learning the home address of the box holder. The Postal Service soon learned that their new move actually violated its own established charter in which privacy was promised for all US postal traffic. They hurriedly modified the proposal by committing to guard the reported information and not make it generally available. Disclosure would be made only on request to a law enforcement agency under secrecy agreement.

The change has not gone into effect and an organization "PostalWatch" has enlisted the help of Texas Congressman Ron Paul, who has entered a bill to curb the worst consequences of such a change. If you want to lend your support to retaining the existing features of private mailboxes, check out <http://www.postalwatch.org/>

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