



## Apparel Care and the Environment

Alternative Technologies and Labeling



# Summary of Discussion

## Session II

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Dr. Manfred Wentz of Fabricare Legislative and Regulatory Education Organization (FLARE)/American Association of Textile Chemists and Colorists (AATCC) opened the discussion and asked for questions about textile care technology development. He asked that specific questions about care labeling (with the exception of questions for Helmut Kruessman) be reserved for the following day's discussion.

Jack Weinberg of Greenpeace questioned Dr. Wentz's conclusion that aqueous and non-aqueous cleaning of garments will always be with us. He pointed out that aqueous systems are relatively new and there may also be changes in garment construction, in fabric manufacture, and in customer demand. Mr. Weinberg indicated that he didn't believe that the case has yet been made that non-aqueous systems are going to be with us forever.

Dr. Wentz replied that in the recent Canadian study he mentioned they pushed the envelope as far as they could on the basis of value judgments and experience and were able to wet clean 75 percent of the garments entering into that plant. Dr. Wentz continued, saying that unless social engineering is instituted, limiting consumer's choices by saying "you can't have this anymore," than indeed there has to be a co-existence between non-aqueous and aqueous cleaning. The reason for this is the properties of the textile and the dyes and construction of the garments.

Mr. Weinberg reiterated his points: (1) in terms of the study in Canada, it was built into the design of the study that non-aqueous cleaning would still be necessarily. It wasn't the conclusion of the study, but merely the value judgments that were brought to it. (2) The conclusions presented by Dr. Wentz are based more on the opinion of the presenter than on the academic material presented in the speech.

Dr. Wentz said he would throw the ball in Mr. Weinberg's court and challenge him to prove that you can wet clean everything. Dr. Wentz added that in terms of the common goal of reducing the impact of our action on the environment, he is convinced that we can do better and we are doing better.

Diane Weiser, President of Ecomat cleaners and laundromat franchise, asked the European speakers what the current status is in Europe of perchloroethylene (perc) and other solvents in terms of either being controlled or phased out or neither.

Dr. Josef Kurz, from Hohenstein Institute, Germany, replied that perc is very well controlled by the authorities, and the dry cleaners have invested a lot of money to comply with these regulations. Wet cleaning is improving and is a very good supplement for the non-aqueous treatment in the dry cleaning industry. Dr. Kurz said he is convinced that all the dry cleaners have accepted wet cleaning as a supplement to the solvent treatment, but sometimes they have not had enough courage to use wet cleaning because of the risk of damages.



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Ms. Weiser asked if in Germany they have cleaners in buildings where they also have residential tenants living.

Dr. Kurz replied that they do.

Jodie Siegel from the University of Massachusetts-Lowell Toxics Use Reduction Institute, had a question for Walther den Otter about the round robin trial test methods. She noted that the temperature used for the gentle and very gentle processes were 60°C and 40°C which translates to 140°F and 104°F respectively. Ms. Siegel asked why they are using such high temperatures. The experience that she has had in the United States with wet cleaning is that people are not using such high temperatures.

Walther den Otter said those temperatures were used for the drying part of the process, not the washing.

Ms. Siegel asked what washing temperatures they used.

Mr. den Otter replied 30°C.

Ms. Siegel remarked that that is still higher than what we use in the United States

Dr. Wentz said he thinks it's very common to have 30°C as a basis for washing sensitive items.

Bill Seitz of the Neighborhood Cleaners Association-International pointed out that 30°C converts into about 85-86°F, which is cool.

Ms. Siegel said that is considered a warm wash, not a cold wash.

Mr. Seitz replied that it's a cool wash, not a cold wash, and not a hot wash.

Connie Vecellio of the Federal Trade Commission (FTC) said the Care Labeling Rule defines 30°C as cold water.

Dr. Wentz added that the AATCC's test methods book has a whole outline of the definition of these temperatures. One of the problems is that with lower temperatures, certain fats and oils are very difficult to remove so from a cleaning perspective higher temperatures are better.

Helmut Kruessman of the Research Institute for Cleaning Technology, said that the International Wool Secretariat (IWS), which is really the expert on wool treatment, proposes an even higher temperature to get wool clean. 30°C is really a precaution. IWS proposes 40°C for wool.

Dr. Wentz said that research done some years ago demonstrated clearly that to get good cleaning, you need temperatures of 38-40°C.

Kaspar Hasenclever of Kreussler Chemical Manufacturing Company, added that shrinkage is not so strongly influenced with temperatures up to 40°C, but the bleeding of dye starts above 35°C.



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David Porter, President of Garment Care, Inc., wanted to thank Josef Kurz for the market data he provided. He remarked that he has not found comparable data for the United States. Mr. Porter asked if when Dr. Kurz said that he expected wet cleaning to increase by 90 percent is that because wet cleaning would allow them to do shirt laundering which is now done at home in Germany.

Dr. Wentz confirmed that shirt laundering in Germany is not done in dry cleaning plants at this time.

Mr. Seitz added that he thought Dr. Kurz, rather than talking about shirt laundering, was referring more to blankets, outerwear, and other articles currently done in the home that could be wet cleaned instead. He also noted that there is an old attitude in Germany about the importance of shirts being done at home. Many housewives are beginning to change that attitude, but it's a slow process.

Mr. Porter said that he was trying to point out that there is cultural difference between the potential U.S. market and the European market. He said his concern is there has been a decline in the market share of dry cleaning, which is very alarming.

Mr. Seitz noted that the dry cleaning share in the United States has been down the last 4 or 5 years and the reason has a lot to do with the economy. It's coincidental that the economy has been down for the last 4 or 5 years, both in the United States and in Germany.

Mr. Porter expressed concern about the cost of new equipment for dry cleaners. He asked what would prevent appliance manufacturers from making wet cleaning machines for the home? Mr. Porter said his goal is to increase business. In addition to having an environmentally acceptable process, we also make sure that we have an economically acceptable process which will not allow the continued decline of the professional garment care market.

Mr. Seitz responded that what we're attempting to do is point out that there are alternatives. Nothing prevents Whirlpool from making a home wet cleaning machine. It didn't prevent Whirlpool from making a coin dry cleaning machine 20 years ago. The question is, will it work in reality, and the dry cleaning machine didn't. A home wet cleaning machine may work, it may not. But nothing will stop Whirlpool from producing what they think is a marketable product.

Eric Frumin of Unite asked if, within the scheme of efforts that the European industries have underway, it is conceivable that an effort could be made to test the limits of machine wet cleaning or other wet cleaning methods beyond that which is being undertaken now. The Center for Neighborhood Technology (CNT) approach is to try to operate 100 percent wet cleaning, not to find a balance between wet cleaning and perc, or wet cleaning and non-aqueous solvents.

Mr. Hasenclever said that to ask that question is the wrong way of thinking because textile cleaning means serving customers. That has nothing to do



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with processes. Of course, the better process from environmental, ecological, and economic aspects will also be the better process for consumers. Mr. Hasenclever pointed out that 90 percent of apparel is cleaned in the home and that home laundering processes are not friendly to the environment because they use too much water and chemicals. Wetcleaning these articles would be better for the environment than home laundry.

Mr. Frumin asked if what Mr. Hasenclever meant was that rather than focusing on the balance of wet cleaning versus non-aqueous cleaning within the percentage of articles already brought to industry to clean, what Mr. Hasenclever is doing is trying to develop a wet cleaning method which can address the environmental concerns of all the laundering that is being done, including the 90 percent done in the home.

Mr. Hasenclever replied that he was.

Peter Sinsheimer with the University of California-Los Angeles (UCLA) evaluation team said that at UCLA they are doing a comprehensive evaluation of 100 percent wet cleaning both in terms of the performance and the economic viability. They're looking at the question of transitions between dry cleaning and wet cleaning and the extent to which both could work simultaneously through a transition period. At the California Fiber Care Institute, there was a dry cleaner who was cleaning garments using dry cleaning, but certain garments had water-based stains that he couldn't get out with dry cleaning. The dry cleaner would then wash those garments in a domestic washer on site which would clean the water-based stains, but the consequence was that the perc on those garments would go down the drain. This was a real problem. They actually were in violation of waste water treatment standards in California. This is a real problem for care labeling as well if we change to having a care label listing both wet clean and dry clean. Mr. Sinsheimer said he wondered how to deal with this problem of residual perc on a garment that could be wetcleaned and the environmental consequences.

Mr. Seitz replied by citing a problem that existed in the dry cleaning industry and how it got solved. A number of years ago, there were chemical companies who made stain removers for laundries and made specific chemicals for the removal of oil and grease stains. Many of those chemicals were perc-based. The way they solved that problem is they stopped making chemicals with perc bases for laundry. The dry cleaner who is dry cleaning a garment and while it is still damp, putting it in the washing machine, is in violation and the way to stop it is to dry the garments properly.

Dr. Wentz added that in the 70's and early 80's, there was a dual cleaning process proposed where this problem of residual perc was even worse. Sterling Laundry had a big project going on there funded by the U.S. Army. They had a group of people monitoring the effluents coming from a laundry and dry cleaning combination. What Mr. Seitz said is true. If you dry the garment properly, you will have very little residue coming out in the water. The question is whether the dry cleaner does dry the garment properly.

Charles Riggs pointed out that if you do the wet cleaning part of the job first, dry the garment, and then clean it in a solvent, you eliminate that problem.



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He also wanted to respond to Mr. Porter's concerns about the cleaning industry and what they're seeing in terms of the declining business. Dr. Riggs said that another reason why consumers are cleaning more at home than they're sending out is that they're not satisfied with the job that they're getting at the cleaners. To increase the market share, three factors need to be taken into account: convenience, cost comparison, and quality. Dr. Riggs said that he hears over and over from consumers that they don't like to take things to be cleaned because they come back and they're not pressed properly, or they smell bad. Dr. Riggs said that when he addresses a cleaners group, he always gets the question, "what should I do now, because we're here in a state of limbo," and his response is "whatever you're doing now, do it better." It's important to get that customer as an ally who supports your business regardless of what technology you're using, rather than someone who is looking for another alternative to running into your shop.

Paula Smith of the Indiana Department of Environmental Management asked Jo Patton if, with the water issue, they had tested for bubbling at the Publicly Owned Treatment Works (POTW).

Ms. Patton of the Center for Neighborhood Technology, responded that they did the sampling right at the discharge and on the basis of the sample, they gave feedback.

Ms. Smith asked if they had any contact been made with the POTW.

Ms. Patton replied that that's who did the sampling. The Metropolitan Water Reclamation District is the sanitary district for Chicago. They were our research partners in this.

Ms. Smith asked if they noticed increased bubbling at the plant when it got down stream. They tested right at the site, but did they test when it got down to the treatment plant.

Jo Patton said that by the time it got down to any treatment plant in Chicago we're talking about very large quantities.

Ms. Smith pointed out that, in other cities, that might be a problem.

Ms. Patton said that the testers had considered bubbling and in their judgment, based on what they saw in the sample, it was not a problem.

Jessica Goodheart of the UCLA Wet Cleaning Demonstration Project, asked what the timetable is for developing a new care labeling system? She also asked what the relationship is between the European community's development of care labeling and what goes on in the United States.

Dr. Wentz responded to the second question about what the United States is doing with respect to developing test procedures for care labeling in this regard. AATCC has a committee, RA43, which had a meeting on May 7. A resolution was passed to participate in the European round robin trials. They have also recently attended a meeting of the European Wet Cleaning Committee working group. Our efforts are definitely coordinating and our





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goal coincides with the European Wet Cleaning Committee's goal, which is to have some information available and take some action, if possible, in 1998 at the International Organization for Standards (ISO) meeting.

Ms. Villa of the American Textile Manufacturers Institute (ATMI), pointed out that in the United States, more than 500 technical standards for textiles have been developed and that there are textile test methods to assess color fastness to ozone, color fastness to water. She also asked Ms. Goodheart if she was she talking about wet cleaning standards or care symbol standards?

Ms. Goodheart remarked that she understands that a testing protocol for professional wet cleaning must be developed prior to implementing care labeling policies, but her question was when will the whole process be complete.

Connie Vecellio from FTC pointed out that the FTC process for amending the Care Labeling Rule has already begun. FTC has asked for comment on two federal notices already, and they will issue another notice beginning a rule making hopefully this year. Ms. Vecellio added that FTC will be very interested in the development of the necessary test for the wet cleaning process, as FTC is dependent for testing on AATCC or ASTM or the European organizations.

Mr. Weinberg had a question for Josef Kurz. One of Mr. Kurz's slides showed *supercritical* CO<sub>2</sub>, but one of the U.S. speakers had talked about *subcritical*. Mr. Weinberg asked if the German experiment is with supercritical CO<sub>2</sub>. His question was does Germany use the same kind of CO<sub>2</sub>.

Mr. Kurz replied that it's the same.

Mr. Weinberg had a question for Helmut Kruessman about the way wet cleaning was listed on the GINETEX proposed care labels. Mr. Weinberg's concern is that for an increasing number of garments, both methods will be technically possible and what is the best way to signal that a garment should be professionally cleaned without specifying wet or dry.

Mr. Kruessman responded that the problem is really a trademark problem of GINETEX. GINETEX currently has a combination of home laundering, chlorine bleach, and ironing symbols, with only one symbol for professional cleaning. For this reason, they needed to have some regulations if an article can be wetcleaned and drycleaned. The market will regulate and the consumers will regulate. GINETEX decided there are some possibilities. For example, if an article can only be wetcleaned, then the wet clean symbol can be included in this row of four or five symbols. If an article can only be drycleaned, then there is no problem. If the article can be wetcleaned or drycleaned, GINETEX decided that you cannot put both circles on the same row. It was decided then the wet clean symbol should be put under the symbol row. It's purely a question of trademarks. It's not permitted to put the dry cleaning and wet cleaning symbols in one row. That's just a decision for the moment.



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Mr. Weinberg asked if there would be a copyright problem if a third symbol were used that meant both wet cleaning and dry cleaning.

Mr. Kruessman responded that this issue was discussed, but the problem is some articles may be considered sensitive in wet cleaning which are not considered sensitive in dry cleaning. That would make it difficult to determine whether or not to put a bar [meaning sensitive] under the symbol. GINETEX decided two symbols was the easiest way to give the information to the dry cleaners.

Ms. Villa wanted to inform everyone about the U. S. position with regard to GINETEX. This method was promulgated in ISO in 1991 and it passed by a 75 percent majority, but there were five major western nations that voted against the standard including South Africa, Japan, Australia, Canada, and the United States. The United States has not accepted or recognized the GINETEX system, and one of the technical hang-ups with the particular standard itself was the instructions that were given to the consumer about the order. The United States also would not accept the standard because of the trademark issue.

Mr. Frumin noted the broad nature of the participation at the conference from many different sectors. He said he was curious to hear from the academics and industry participants which industry or industries, in the chain, from fiber to textile to apparel to retail, bear the greatest burden for the current changes.

Carl Priestland of American Apparel Manufacturers Association (AAMA) noted that the apparel industry in the United States produces something like \$50 billion worth of apparel domestically and that means about 6.5 billion garments that have to have labels on them. So the biggest problem that the apparel industry faces is to make sure that what we put on those labels actually works. We have to get the information from the textile industry, and we have to give it to the consumer. The real problem is that apparel manufacturers are not the first ones to get this apparel back. It's the retailers and the dry cleaners. But the apparel manufacturers are the ones that have the biggest responsibility for care labeling changes.

Ms. Siegel asked Josef Kurz about his slides showing the rayon and wool swatches with different finishes on them. She asked if any research was being done about adding these protective finishes to the wet cleaning process such as in the detergent used.

Mr. Kurz replied that anti-felting finishes on wool and anti-shrinkage finishes on rayon are state of the art. But these finishes can't be added to the detergents.

Mr. Seitz commented that cleaners have a number of problems with the finishes that manufacturers currently use.

Mr. Wentz concluded the discussion by thanking all the speakers for excellent presentations. He said the message he would like to give all participants is: we are breaking the paradigm that dry cleaning means dry cleaning



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in perc. However, based on what we learned this afternoon, what we probably will also learn also tomorrow, and based on his own experience with AATCC and ASTM it's clear that it is a complex issue. There is no easy answer; however, if every one of us continues to participate in the process, we will hopefully reach our goals of environmentally responsible textile care and meeting the needs of the consumers. We are trying to influence them by giving them choices, but in the final analysis, the market place will make the final decision.