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Design for the Environment

Garment and Textile Care Program **Fact Sheet**

Cleaner Technology Substitutes Assessment for Professional Fabricare Processes

WHAT IS DESIGN FOR THE ENVIRONMENT?

EPA's Design for the Environment (DfE) Program is a voluntary initiative that forges partnerships with various stakeholder groups in an effort to:

- Build incentives for behavior change to encourage continuous environmental improvement.
- Work with specific industries to evaluate the risks, performance, and costs of alternative chemicals, processes, and technologies.

To accomplish these goals, the program utilizes EPA expertise and leadership to compare the relative environmental and human health risks, performance, and cost tradeoffs of traditional and alternative technologies. DfE disseminates information on its work to all interested parties and also assists businesses to implement the new technologies identified through the program.

The program currently has cooperative partnerships with:

- Industry
- Professional Institutions and Trade Associations
- Academia
- Environmental and Public Interest Groups
- Labor Unions
- Research Organizations
- Government purchasing agencies

WHAT IS A CTSA?

Cleaner Technologies Substitutes Assessment, or CTSA, is a tool developed by the EPA Design for the Environment Program (DfE) to do a relative comparison of the cost, performance, and environmental and health risks of technologies used in a particular industry. The CTSA is designed to encourage companies to consider environmental issues when making business decisions about work practices and technologies. To develop a CTSA, EPA/DfE and its project partners gather available information on existing and emerging chemicals, processes, and technologies in that industry, and present it in one comprehensive technical report.

WHY WAS THE FABRICARE CTSA CREATED, AND FOR WHOM?

This Fact Sheet is based on a newly released CTSA focused on the professional drycleaning (fabricare) industry. The CTSA was prepared by the DfE Garment and Textile Care Program (GTCP) and is intended to be a resource for small cleaners who may have limited time and resources to collect and analyze this large amount of detailed information themselves. The appropriate audience for the CTSA is technically-informed, and might consist of individuals such as owners, environmental health and safety personnel, equipment manufacturers, and other industry decision-makers. The CTSA, a large document, is also available in summary form to meet the needs of those who do not need the level of detail in the comprehensive version. The CTSA will be used by the GTCP as the basis for public information products suitable for broader non-technical audiences.

WHAT IS THE DfE GARMENT AND TEXTILE CARE PROGRAM?

The DfE Drycleaning Project, now the DfE GTCP, was initiated after a 1992 international roundtable on drycleaning in which industry leaders and EPA agreed that health and environmental issues surrounding the drycleaning industry could be addressed most effectively through DfE's voluntary, proactive approach. The project partnership was established to encourage the development and incorporation of environmentally-preferable cleaning methods which professional cleaners can offer to their customers, while maintaining or increasing economic viability. Initial efforts focused on the development and evaluation of new cleaning methods, the development of training materials, and the publication of information. In 1996, at the DfE Apparel Care Conference, it was recognized that decisions made in related industries affect the cleanability of garments, and ultimately the decisions made by drycleaners. Recent GTCP efforts, including a 1998 conference, have been to expand the partnership to include representatives from other related industries such as garment and textile designers, manufacturers, fiber producers, retailers, and consumers. The primary goal of the expanded partnership is to explore how decisions made by other industries affect the incorporation of environmentally-preferable methods into professional cleaning operations.

WHAT IS COVERED IN THE FABRICARE CTSA?

Technology

The CTSA covers existing and emerging technologies including perchloroethylene, hydrocarbons, and wetcleaning. There have been a number of improvements in traditional

drycleaning systems which are based on solvents such as perchloroethylene. A relatively new process called wetcleaning is a water-based system which uses large, specialized machines to gently wash and dry clothes. The machines may be programmed for many variables, such as mechanical action, water and drying temperature, moisture levels in the dryer, and water and detergent volumes. The CTSA contains a relative comparison of existing processes: perchloroethylene (perc), hydrocarbon (HC) systems including Stoddard, 140°, and DF-2000, and wetcleaning. The information on emerging technologies, those not yet commercially available, is general and reflects information provided by the manufacturers. While this information cannot be independently verified at this time, it is useful to provide a glimpse at technologies that may become viable choices for drycleaners in the future. Emerging technologies mentioned in the CTSA include a process that uses carbon dioxide in a liquid state, a glycol ether based process, and several others still in development.

Risks

The CTSA presents a screening level risk assessment on existing professional fabricare processes. It is not a comprehensive risk assessment of any one chemical. The CTSA compares relative, not absolute, health, environmental and safety concerns for each of the existing cleaning processes. The CTSA does not, nor is it intended to, represent the full range of hazards that could be associated with clothes cleaning technologies. Careful interpretation of the risk information in the CTSA is necessary given the extent and type of hazard and exposure data, and their accompanying uncertainties. Also, absence of information on a technology does not imply there would be no risks associated with its use.

Performance Characteristics

The CTSA makes general comparisons among existing cleaning processes. The comparisons are based on factors such as consumer perception and ability of a process to clean garments effectively. It is important for the proper interpretation of this information to keep in mind that there is much more performance information available for traditional cleaning methods than for the newer ones. As the results of additional performance studies become available, the GTCP will publish fact sheets and case studies summarizing the new information.

Costs

The CTSA developed a cost analysis using industry-supplied data and publicly available information. This analysis includes the costs of running a professional clothes cleaning business with factors such as rent, basic operating expenses, and equipment. The equipment capacity, equipment type, and the location of the facility will also affect the costs and economic viability of a professional cleaning operation. The CTSA has focused on a subset of costs associated with operating clothes cleaning facilities.

HOW DOES THE CTSA AFFECT THE PUBLIC?

The public will benefit from the information published in the CTSA and CTSA-based information products because these documents will help them understand how their everyday choices affect the environment. Consumers of professional garment care face an every widening array of products and services from which to choose. As people better understand how a cleaning process affects their environment, they will be better equipped to make responsible decisions that benefit them, their families, and the community.

HOW DOES THE CTSA AFFECT DRYCLEANERS?

Drycleaners interested in new cleaning technologies will benefit directly from the CTSA's compilation of information and detailed analyses. The drycleaning industry as a whole is keenly interested in process improvements and new process developments, and there are a growing number of individual cleaners who are actively seeking to incorporate new processes into their businesses. The CTSA will provide useful information on the methods that may be used by cleaners or others to conduct their own evaluations.

WHAT IS IN THE FUTURE?

Through the DfE GTCP, EPA plans to continue working with a broad base of stakeholders to incorporate environmental concerns in fabricare industries. For example, EPA hopes by supporting increased development and use of designs, fabrics, and clothing construction techniques which are compatible with environmentally-preferable cleaning processes, that those products will allow cleaners to choose "greener" cleaning techniques. It is anticipated that the publication of the CTSA, along with new joint stakeholder efforts, not only will encourage improvement and expansion of fabricare choices, but will also remove barriers that prevent adoption of economically competitive and environmentally sound processes.

HOW CAN I GET MORE INFORMATION?

Contact PPIC to receive an information packet to learn more about EPA's DfE Program or the Garment and Textile Care Program, or to request a single copy of the following documents:

CTSA for Professional Fabricare Processes (EPA 744-B-98-001)
Summary CTSA (EPA 744-S-98-001)
Fact Sheet (EPA 744-F-98-011)
Frequently Asked Questions about Drycleaning (EPA 744-K-98-002)

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http://www.epa.gov/opptintr/library/ppicdist.htm

Copies of these documents are also available for purchase from:
NTIS (800-553-NTIS)

DfE Garment and Textile Care Program home page:
http://www.epa.gov/dfe/garment/garment.html