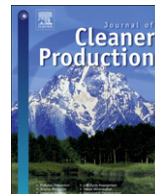




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# Journal of Cleaner Production

journal homepage: [www.elsevier.com/locate/jclepro](http://www.elsevier.com/locate/jclepro)

## Book review

### Cleanersolutions database at <http://www.cleanersolutions.org/>

The CleanerSolutions Database is a powerful and unique capability. In the past decade there have been many database and selection tools that have been developed and promulgated. Some of these tools had good functionality, but they all failed to develop a sustainable model and did not stand the test of time. TURI has assembled years of practical knowledge into an intuitive tool that guides designers, users and engineers through the maze of solvent substitution alternatives. The database links performance and environmental considerations and provides options based on process information provided by the investigator. The CleanerSolutions Database is a great tool that is built on the critical understanding that to effectively implement alternatives there must be an understanding of both process and performance requirements. There are many challenges to identifying, qualifying and implementing alternative cleaning products and/or processes. The CleanerSolutions Database addresses these challenges by guided questions and a feedback cycle that provide the best available solution or suggestions for products to consider.

One consistent theme in discussions concerning alternative implementation is the need for solid information to support decision making. The lack of systems to aggregate and disseminate information on performance and ESOH issues inhibits the development of preferred, sustainable processes to influence the design process, address current issues, and anticipate emerging issues. The focus of "greening" our industrial operations is based on a realization that environmental regulations impacting the industrial base are system engineering challenges and not environmental engineering problems. The CleanerSolutions Database not only provides guidance on solutions it enables the investigator to build a business case based on the experience of other operators.

### Second review

In my role as a process engineer, I have found TURI's CleanerSolutions Database to be useful both in setting up new cleaning processes and also in improving existing cleaning processes. The database contains a large amount of information on cleaners, vendors, and tests performed, and the user interface is intuitive. For example to

find a suitable cleaner, the user selects contaminant, substrate, and equipment, and the database returns a list of cleaners that have been tested for those conditions. Depending on the search criteria, usually you can quickly arrive at multiple cleaner options that have been found effective in similar applications. The list of cleaners can then be sorted by manufacturer, classification, efficacy (Y/N), and other criteria. To further help you select a cleaner, the database also allows you to compare up to three cleaners side-by-side, so you can quickly review the descriptions of the candidate cleaners.

TURI assigns safety scores to cleaners, which considers volatile organic compounds (VOCs), global warming & ozone depletion potential, toxicity, and pH. A rolled-up single-value safety score is reported in the initial search of cleaners, which is a reasonable first-pass way to rate and compare cleaner safety. As you drill down to final cleaner selections, the safety score is broken out into its components, so that you can identify the aspects most important to your situation. For example, depending on what waste stream capabilities your company already has, you may have different concerns for VOC and pH values.

Links to MSDSs and technical data sheets are provided. Cost is not addressed in the database, but links to the manufacturers' websites will get you to the answer. Part geometry is also not addressed in the database, other than by reviewing specific case studies.

In summary, there are undoubtedly many cleaners, contaminants, and substrates not included in the database, but 20 years of testing by TURI has provided plenty of breadth. For many applications the user should find it quite helpful.

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