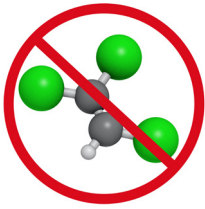


## Tech Article

# Top Ten Reasons to Switch to a Better Vapor Degreasing Fluid

- Author: Venesia Hurtubise, MicroCare Technical Chemist
- Industry: Precision
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nPB and TCE are under scrutiny by the U.S. EPA and other regulatory agencies



Opteon™ SF80 Specialty Fluid is more efficient, easier to maintain and less hazardous for workers and the environment



In recent years, the metal-working industry has seen an incredible range of changes. The introduction of composites and polymers, global competition to make parts smaller, lighter and more economically and ever-changing environmental regulations has made it an exciting but challenging time to be in the industry. It is imperative that companies today address and adapt to these changes to stay current, competitive and profitable.

Each of these changes, especially those regarding environmental regulations, impacts the way metal parts are cleaned and prepped for further processing like plating, coating, painting or welding. Historically, legacy solvents like nPB (n-propyl bromide) and TCE (trichloroethylene) have reliably and economically filled the cleaning requirements within the metal-working culture. However, those solvents are under scrutiny by the U.S. EPA (Environmental Protection Agency) and other global organizations due to their negative impact on air quality and potential hazard to workers.

It's unclear when a complete nPB or TCE ban will happen in the U.S., but many experts agree, the phaseout is definite and coming soon. So, it's important to plan your transition to safer vapor degreasing fluid today.

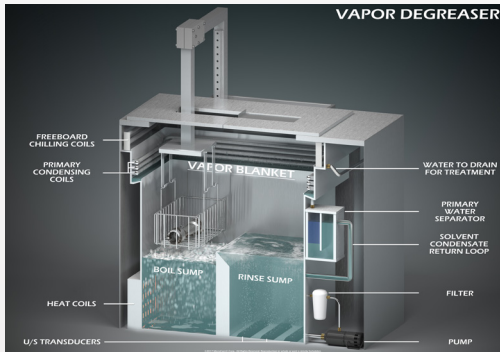
Many companies, faced with the challenge of changing to alternative solvents, are concerned about the impact the change will have on their bottom-line. Their biggest concerns are that changing their cleaning solvents and processes will cause production down-time, require a big capital investment in new equipment or result in time lost training employees on new processes. Not to mention the worry that the new cleaning fluids will not deliver the same cleaning results as the old ones.

Fortunately, there is a solvent alternative on the market today that cleans just as well, if not better than the old solvents. Opteon™ SF80 Specialty Fluid. It is more efficient, easier to maintain and less hazardous for workers and the environment. In many instances, the changeover to Opteon™ SF80 is simple and does not require any investment in new equipment. The benefits of this newer HFO (hydrofluoro-olefin) based cleaner include consistent cleaning quality, improved throughput and decreased energy usage. Plus, it has an excellent toxicity profile, making it safer for people and the planet.

### Here are the top 10 reasons to switch to Opteon™ SF80 Today

- Same or better cleaning:** Opteon™ SF80 has been lab-tested and analyzed to ensure the cleaning results are reliable, consistent and just as good as the legacy solvents. With its exceptional solvency power (Kb value of 99), cleaning efficiencies were maintained or improved.
- Low cost of conversion:** In many cases, Opteon™ SF80 can be used in existing equipment, using the same methods. After emptying and cleaning your vapor degreaser, Opteon™ SF80 can be added to the machinery without an appreciable change to your cleaning process.
- Energy savings:** Opteon™ SF80 has a lower boiling point and heat of vaporization than the older solvents, requiring less energy consumption, resulting in an overall energy cost savings and smaller environmental footprint.

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*Opteon™ SF80 Specialty Fluid can typically be used in existing vapor degreasing equipment without an appreciable change to your cleaning process*



*Opteon™ SF80 has a better toxicity profile and higher TLV (Threshold Limit Value) than nPB or TCE making it safer for workers to be around*

- 4. Improved efficiency:** Since Opteon™ SF80 boils at a lower rate than the legacy solvents (47°C, 117°F), it dries fast. Parts come out of the vapor degreaser cool enough to handle. Parts can be processed and used immediately, boosting your overall throughput and productivity.
- 5. Enhanced safety:** Opteon™ SF80 is nonflammable for improved safety in the workplace. Since it is an azeotrope-like mixture it is thermally stable and safe to use.
- 6. Healthier for workers:** Opteon™ SF80 has a better toxicity profile and higher TLV (Threshold Limit Value) than nPB or TCE making it safer for workers to be around.
- 7. Better environmental profile:** Opteon™ SF80 does not carry a heavy regulatory burden like some of the legacy solvents. It has a low GWP of less than 2.5 and does not contain any fluorinated greenhouse gases.
- 8. Improved maintenance procedures:** Except under the most extreme conditions, such as if exposed to a strong base or acid, or exposed to extreme heat, Opteon™ SF80 will not “turn acid”. It does not require the stabilizers or scavengers or weekly testing required of some legacy solvents.
- 9. Better working conditions:** Opteon™ SF80 does not have the same pungent, sweet smell associated with TCE or the other legacy solvents. Less fumes means a more pleasant work area and happier, more productive workers. In addition, since Opteon™ SF80 is safer to use, PPE requirements may be less stringent, making the working environment more convenient and comfortable for employees.
- 10. Easier handling, transport and disposal:** Opteon™ SF80 is more easily recycled on-site because it does not contain any stabilizers or additives required when using legacy solvents. Employees do not need the same type of intensive training to manage the new fluids safely, saving time and money.

The change to a new cleaning fluid can be full of uncertainty. For many companies looking to make the switch to a better solvent it is imperative that they maintain their cleaning performance with minimal impact to throughput and productivity. The best course of action is to partner with a precision cleaning expert, like MicroCare, to help you upgrade to Opteon™ SF80 for your vapor degreaser cleaning solvent.

### About the Author:

*Venesia Hurtubise is a Technical Chemist at MicroCare which offers precision cleaning solutions. She has been in the industry more than 6 years and holds a MS in Green Chemistry from Imperial College. Hurtubise researches, develops and tests cleaning-related products that are used on a daily basis in precision cleaning and medical applications.*

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