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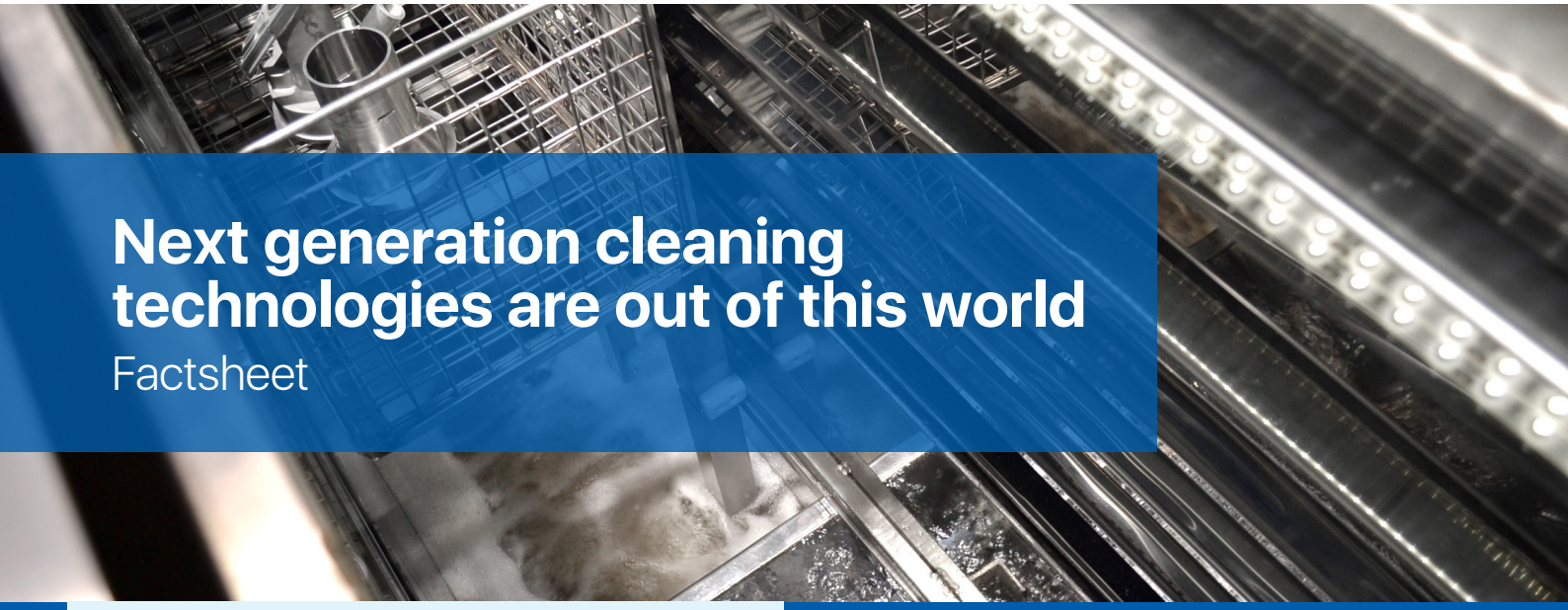


Next generation cleaning technologies are out of this world

Factsheet

Graham Fraser, MD of Fraser Technologies, discusses the next generation of cleaning technologies and how they're revolutionising environmental impact.

When considering how to clean or degrease products or components, businesses will find they are faced with a choice between water-based aqueous cleaning and using solvents. While many people have an instant reaction to steer clear of solvents due to their controversial history, there is an impressive new wave of cleaning technologies that should not be ignored.

There's no denying that in the past, many solvents were detrimental to health and the environment, and the majority of people probably believe that this is still the case. However, the solvents of the 80s and 90s have been left in the past, and the current generation of chemicals are just as safe as the aqueous solutions people have become accustomed to.

While there are instances where aqueous cleaning provides the best results, many applications are best suited to solvent cleaning. Plus, as solvents can be considered a 'dry' cleaning option, this process is ideal for water-sensitive or difficult to dry components.

With the introduction of solvents such as the Opteon™ range from Chemours™, solvent cleaning has once again become a viable, safe and cost-effective option, and it is fast becoming a favoured choice.

It is a simple process that can be very effective and easy to manage. With the use of low boiling point, non-flammable products, components can be cleaned to an exceptionally high standard with minimal cost and capital investment.

These cleaning solvents use eco-friendly chemistries, which offer a superior cleaning performance. They are low in cost and provide a genuine alternative to the old hazardous solvents which have now been banned or restricted. The Chemours™ range of safe, environmentally friendly solvents have become widely accepted as best in class, next generation fluids and are approved for use in a large range of standard cleaning systems.

Solvents can now boast low global warming potential (GWP). Global warming is a gradual increase in the overall temperature of the earth's atmosphere, generally attributed to the greenhouse effect, caused by increased levels of carbon dioxide, CFCs, and other pollutants. GWP is used to represent the equivalent of Co2 being released into the atmosphere. So 1kg of CO2 = a GWP of 1.

Along with exceptionally low GWP, solvents also offer speed and efficiency, which shorten lead times and reduce costs. There are lower capital equipment costs than with comparable water-based systems, so there is a low cost of ownership and a smaller equipment footprint. Plus, they are extremely easy and safe to use. These benefits combined with extremely high precision cleaning, make solvents a very attractive option for many businesses.

To the moon and back

One of our most popular products is Opteon™ SF79®; a non-flammable, fast drying cleaning solvent from Chemours™, which is designed to clean a wide range of soils from mechanical components, electronics, optics, military hardware, etc. It is ideally suited for vapour degreasing, precision cleaning and removal of greases and oils.

It was designed to be safe for the operators and for the environment, and replaces many of the high cost HFE materials as well as nPB, Trike, Methylene Chloride and Perc. Chemours™ has recently launched a re-modified version of SF79®, helpfully named SF80®, which offers all of the benefits of SF79®, but with an even lower GWP of 2.5 compared to 15 from SF79®.

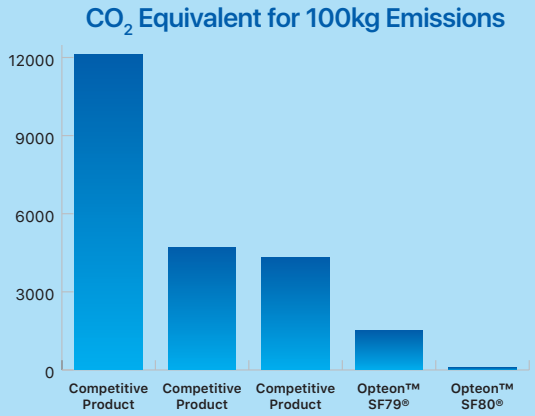
The impact of this change is remarkable, and can be demonstrated by a project we have undertaken with one of our customers – a prominent aerospace manufacturer - was using 7 Metric Tonnes of product per year. We worked with them to approve SF79® and subsequently SF80® and once on site, we assisted in optimising their processes to reduce solvent consumption.

	CO2 Equivalent	Distance travelled Miles	Times round the World
Common HFC	6930000	3594398	143.51
SF80®	4994	2590	0.10

* Average sized family car emissions.

We also introduced a solvent recovery process to allow them to further reduce waste and reuse the recovered solvent. This has taken the customer's overall usage of solvent down by 28% and has shown a significant cost reduction of around £30,000 per year.

Significant C02 reductions were also shown, with a GWP of 990, the C02 emissions created by the customer when using the alternative product were equal to the emissions of driving 7.5 times to the moon and back*. When compared to SF80® this was the equivalent of driving from Edinburgh to Moscow!



Bespoke solutions

New solvents work exceptionally well in the correct applications, but in some instances they're not appropriate and alternative options are required. The benefit of coming to Fraser Technologies we evaluate the best option for that specific project; whether that solution is solvent or aqueous.

Along with the cleaning fluids, we can advise on the cleaning systems and equipment required for optimum cleaning solutions. We offer fully bespoke cleaning systems, where expert analysts conduct a site visit and evaluate individual cleaning needs and existing processes, before making detailed recommendations for both equipment and chemistries. We run trials and provide detailed reports, offering independent evaluations and recommendations to ensure the correct solution is used for every application.

Cleaning of the future

There is a great deal of misinformation in the public domain and general opinion regarding solvents, but these new fluids provide an environmentally friendly option which can save time and money, while also reducing our impact on the planet. For businesses looking to improve their cleaning and degreasing processes, and reduce their environmental impact, solvents should most definitely be a part of the conversation.

Fraser Technologies has over 50 years of experience in component cleaning, across all areas of manufacturing, and is the only UK supplier able to offer the complete package of evaluation, supply and support.

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