



3M

Novec[™]

Brand

Clean without compromise.

3M[™] Novec[™] Engineered Fluids for
solvent cleaning and vapor degreasing

3M Science. Applied to Life.[™]

3M™ Novec™ Engineered Fluids
for solvent cleaning and vapor degreasing

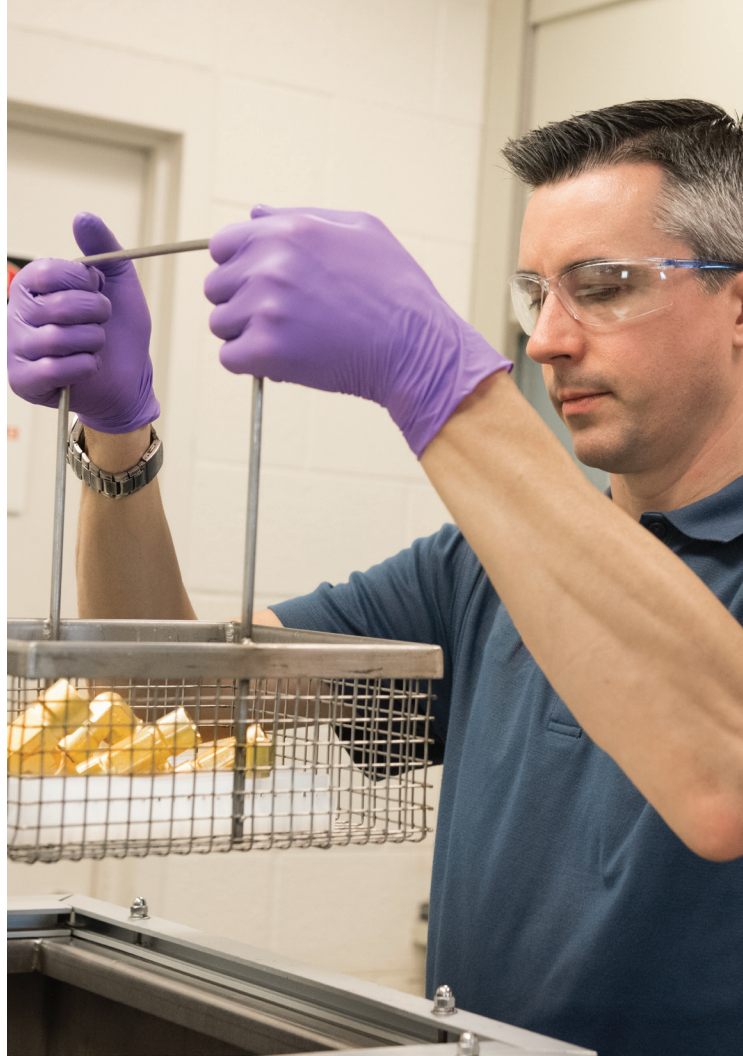
Don't settle.

Everything you need in a cleaning solvent – without the usual trade-offs.

In today's fast-changing regulatory and competitive landscape, it can be challenging to find a cleaning solvent with the right mix of properties, compatibility and cleaning strength for your application's needs. The ideal solution not only offers powerful cleaning performance but also delivers low environmental impact and a high margin of safety.

You may think you have to settle for a solvent that satisfies one of these needs at the expense of others, but with 3M™ Novec™ Engineered Fluids, you can have it all. These unique solvents have outstanding performance, environmental and safety properties, giving you excellent performance without compromise.

What's more, Novec fluids offer a cost-effective solution for your toughest cleaning challenges. Our fluids are best used in traditional vapor degreasing systems that provide fast cycle times and continuous recycling of the fluid. They are also effective in immersion systems and hand wiping applications. Either way, Novec fluids clean without damaging sensitive components or leaving residue on your parts. And no matter your application, we're here to help you get the most from our solutions with time-tested knowledge and support.



The science of clean

Novec fluids are based on proprietary 3M chemistry. This sustainable technology is part of our longstanding commitment to continually improve the environmental, health and safety profiles of our chemical products. Appropriate for a wide range of cleaning applications, their unique properties include:

- Low global warming potential (GWP)
- Zero ozone depletion potential
- Not scheduled for regulatory restriction or phasedown
- Neat Novec fluids are exempt from the U.S. EPA definitions for Volatile Organic Compounds (VOCs)
- Non-flammable
- Non-conductive
- Low toxicity
- High margin of worker safety
- Non-corrosive
- Effective and sustainable replacement for nPB, TCE, HCFCs, HFCs and aqueous cleaning

Take on your toughest cleaning jobs

Because of their low surface tension, 3M™ Novec™ Engineered Fluids can penetrate tight spaces and thoroughly clean hard-to-reach areas. They evaporate quickly without leaving residue, which means parts get clean faster and costly “drag out” solvent losses are reduced. Together, these properties make them the smart choice for a variety of cleaning processes.

We offer products appropriate for each of the following applications:

● Light-duty cleaning

Remove light hydrocarbon and silicone oils, fluorinated lubricants and particulates from mobile device and hard disk drive components including sensitive plastics such as polycarbonate, acrylic, ABS and more.

● Medium to heavy-duty cleaning

Clean medium-duty to heavy-duty oils, lubricants, low melting point waxes, buffing compounds, solder flux residue and ionic contaminants from a wide variety of materials.

● Co-solvent and bi-solvent cleaning






Combine Novec fluids with low-volatility organic solvents to better remove challenging soils like heavy oils, greases, waxes and fluxes while maintaining compatibility with sensitive materials.

● Hand-wipe cleaning

Use convenient, zero-residue Novec fluids to hand-wipe critical components and remove fine particulates when batch processing is not practical.

Less waste, less cost

Although a gallon of water is inherently less expensive than a gallon of a fluorinated solvent, aqueous cleaning systems have disadvantages that can cost you in the long run. Here's a look at how choosing Novec fluids can save you time and money over aqueous cleaning:

Engineered for:	To give you:
 Low surface tension	Improved cleaning of parts with complex geometries and tight spaces for improved yields
 Quick evaporation	Faster dry times for improved cycle times
 Lower energy usage	Significantly lower electricity costs and greater energy efficiency
 Less waste	Lower long-term cost of system ownership and conservation of water, a finite and valuable natural resource
 Less floor space	More effective use of your facility thanks to smaller system footprint
 Compatibility	Prevention of parts corrosion and water spotting associated with aqueous systems and compatibility with wide range of materials*

*Not all Novec fluids are appropriate for cleaning parts containing certain plastics and elastomeric materials. Check with your 3M representative for details on materials compatibility.

Engineered for long-term regulatory compliance

Novec fluids are not targeted for regulatory phasedown, unlike conventional solvents such as hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs) like Vertrel™ specialty fluids from Chemours. HFCs are now on a phase-down schedule under the Montreal Protocol, following the path of chlorofluorocarbons (CFCs) and HCFCs. Novec fluids are also a safer alternative to n-propyl bromide (nPB) and trichloroethylene (TCE) because of their wide margin of safety.



Let's get started—together

Not sure which Novec fluid is right for your particular application? We are here to help! Our team of experienced professionals will help you work through the nuances of designing a new cleaning process or incorporating a replacement cleaning solution by sharing expert advice, cleaning trial results of your parts from our lab, and samples and assistance with trials. Visit [3M.com/Novec](https://www.3M.com/Novec) to learn more and get started today.

Smart. Safe. Sustainable.

The 3M™ Novec™ Brand Family

The Novec brand is the hallmark for a variety of proprietary 3M products. Although each has its own unique formula and performance properties, all Novec products are designed in common to address the need for smart, safe, sustainable solutions in industry-specific applications. These include precision and electronics cleaning, heat transfer, fire protection, protective coatings, immersion cooling, advanced insulation media replacement solutions and several specialty chemical applications.

3M™ Novec™ Engineered Fluids • 3M™ Novec™ Aerosol Cleaners • 3M™ Novec™ 1230 Fire Protection Fluid • 3M™ Novec™ Electronic Grade Coatings • 3M™ Novec™ Electronic Surfactants • 3M™ Novec™ Dielectric Fluids

Regulatory: For regulatory information about this product, contact your 3M representative.

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Electronics Materials Solutions Division

3M Center, Building 224-3N-11
St. Paul, MN 55144-1000 USA
www.3M.com/noveccleaning
1-800-810-8513

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