

3M NOVEC AND FLUORINERT REPLACEMENT GUIDELINE





3M NOVEC AND FLUORINERT SERIES PHASE-OUT OVERVIEW

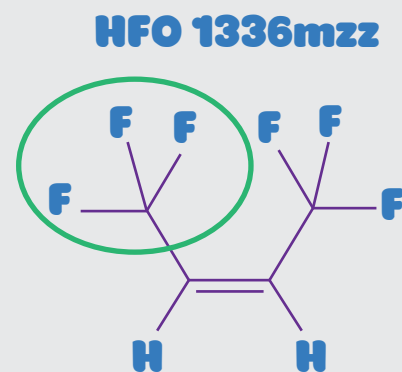
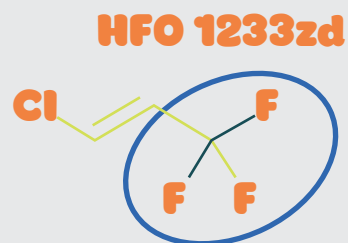
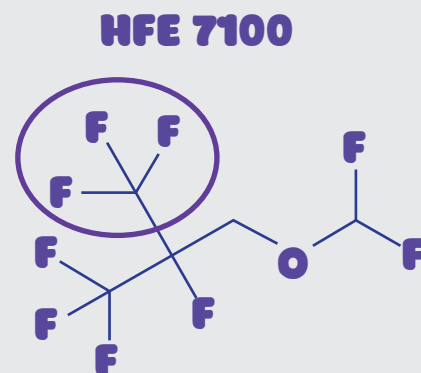
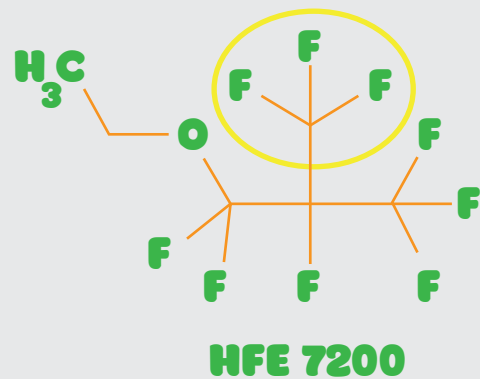
3M exit Novec Manufacturing

3M announced it plans to **exit** per- and polyfluoroalkyl substance (**PFAS**) manufacturing and work to discontinue use of PFAS in its product portfolio **by the end of 2025**.

What is PFAS?

PFASs are defined as **fluorinated substances** that contain at least **one fully fluorinated methyl or methylene carbon atom** (without any H/Cl/Br/I atom attached to it), i.e. with a few noted exceptions, any chemical with at least a perfluorinated methyl group (-CF₃) or a perfluorinated methylene group (-CF₂) is a PFAS.

Molecules seen on the fluorinated solvent cleaning market



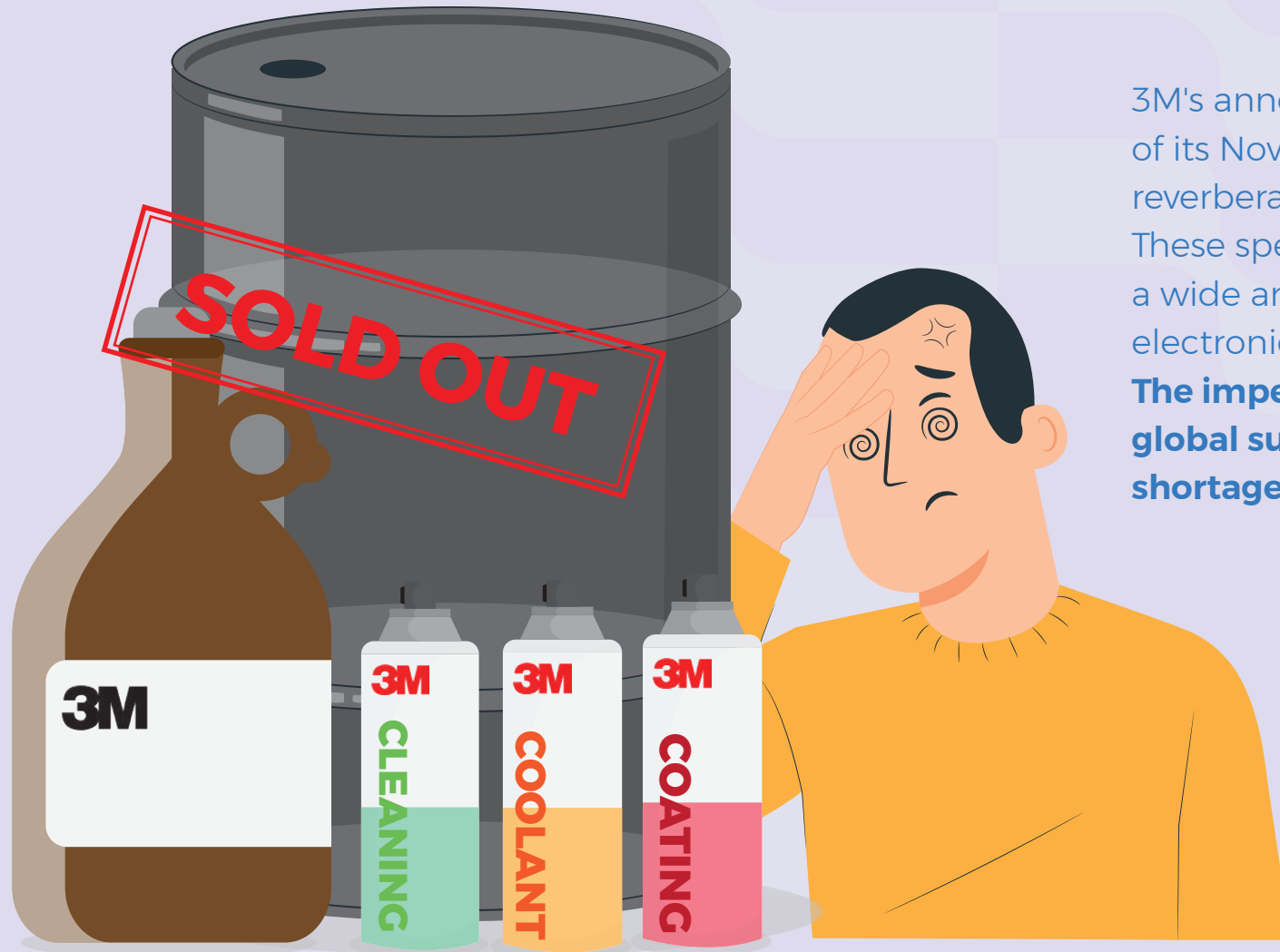
📌 Fact you may not know:

^B **PFAS family difference:** A significant number of PFAS exist (4,700 by OECD and 10,000 by ECHA). These chemicals have found applications across various industries. **Not all PFAS pose the same environmental or health risks. Regulatory restrictions will likely target specific PFAS** based on their risk profiles.

² **3M Decision:** PFAS in 3M Novec and Fluorinert products are not under the PFAS family restricted.

[★] **Industry-specific impacts:** While some applications, particularly those utilizing PFAS-containing cleaning fluids in industrial precision cleaning or oxygen-enriched environments, may face limitations, critical sectors like **electronics and semiconductors have little evidence of widespread bans on PFAS** used in this field in most countries.

3M NOVEC AND FLUORINERT GLOBAL SHORTAGE



3M's announcement regarding the discontinuation of its Novec and Fluorinert product lines has reverberated across multiple manufacturing sectors. These specialized chemicals find extensive usage in a wide array of applications, spanning from electronics and semiconductors to medical devices. **The impending discontinuation has triggered a global supply chain disruption, characterized by shortages, stockpiling, and price hikes**

MANUFACTURER'S

Problems

Ensuring the continuity of the 3M Novec and Fluorinert supply chain is vital for uninterrupted production.



PROSTECH TOTAL

Solutions

Sustainment of 3M product supply until production ceases in 2025

Prostech offers the 3M Novec and Fluorinert series with short lead times and ample stock availability, facilitating global delivery.

Procuring direct replacements promptly for 3M Novec and Fluorinert products.



Direct replacement readily available for shipment

We offer direct replacements for qualifying materials with similar formulations and equivalent performance.

Identifying sustainable and competitively priced materials.



Non-PFAS alternatives:

Prostech provides cross-replacement options utilizing non-PFAS materials, promoting long-term sustainability and competitive pricing.

Optimizing new materials and processes for production efficiency



Production process enhancement

Prostech offers automation systems and supports production process optimization to aid in the adoption of novel materials.

Prostech's Available Solutions

for Discontinued 3M Products

3M 'S PART NUMBER		3M PRODUCTS AVAILABLE	DIRECT REPLACEMENT AVAILABLE	CROSS-FUNCTION REPLACEMENT	
NAME	PART NUMBER			DIFFERENT PFAS FORMULATION	PFAS-FREE
		3M products are currently in stock at Prostech and ready for immediate shipping.	These products feature identical formulations.	While these products have varying PFAS compositions, they deliver comparable performance.	These products are free from PFAS and can be utilized for the same applications.
3M™ Novec™ 7100 Engineered Fluid	7100	✓	✓	✓	
3M™ Novec™ 7100DL Engineered Fluid	7100-DL	✓	✓	✓	
3M™ Novec™ 71DA Engineered Fluid	71DA	✓	✓	✓	✓
3M™ Novec™ 71DE Engineered Fluid	71DE	✓	✓	✓	✓
3M™ Novec™ 71IPA Engineered Fluid	71IPA	✓	✓	✓	✓
3M™ Novec™ 7200 Engineered Fluid	7200	✓	✓	✓	
3M™ Novec™ 7200DL Engineered Fluid	7200DL	✓	✓	✓	
3M™ Novec™ 72DA Engineered Fluid	72DA	✓	✓	✓	✓
3M™ Novec™ 72DE Engineered Fluid	72DE	✓	✓	✓	✓
3M™ Novec™ 7300 Engineered Fluid	7300	✓	✓	✓	
3M™ Novec™ 7300 Engineered Fluid	73DE	✓	✓	✓	✓
3M™ Novec™ 7500 Engineered Fluid	7500	✓		✓	
3M™ Novec™ Flux Remover	Flux Remover	✓		✓	✓
3M™ Novec™ Electronic Degreaser	Electronic Degreaser	✓			✓
3M™ Novec™ Contact Cleaner	Contact Cleaner	✓			✓
3M™ Novec™ Contact Cleaner Plus	Contact Cleaner Plus	✓			✓
3M™ Novec™ 649 Engineered Fluid	649	✓	✓		✓
3M™ Novec™ 612 Magnesium Protection Fluid	612	✓	✓		
3M™ Fluorinert™ Electronic Liquid FC-72	72	✓		✓	
3M™ Fluorinert™ Electronic Liquid FC-3284	3284	✓		✓	
3M™ Fluorinert™ Electronic Liquid FC-3283	3283	✓	✓	✓	
3M™ Fluorinert™ Electronic Liquid FC-40	FC-40	✓	✓	✓	
3M™ Fluorinert™ Electronic Liquid FC-43	FC 43	✓		✓	
3M™ Fluorinert™ Electronic Liquid FC-770	FC-770	✓	✓	✓	
3M™ Novec™ 1230 Fire Protection Fluid	1230	✓	✓		
3M™ Novec™ 1700 Electronic Grade Coating	1700	✓	✓		✓
3M™ Novec™ 1710 Electronic Grade Coating	1710		✓		✓
3M™ Novec™ 1720 Electronic Grade Coating	1720	✓	✓		✓
3M™ Novec™ 2202 Electronic Grade Coating	2202	✓	✓		✓
3M™ Novec™ 2701 Electronic Grade Coating	2701		✓		✓
3M™ Novec™ 2704 Electronic Grade Coating	2704	✓	✓		✓
3M™ Novec™ 2708 Electronic Grade Coating	2708	✓	✓		✓
3M™ Novec™ 1901 Electronic Grade Coating	1901		✓		✓
3M™ Novec™ 1902 Electronic Grade Coating	1902		✓		✓
3M™ Novec™ 1908 Electronic Grade Coating	1908		✓		✓
3M™ Novec™ 1904 Electronic Grade Coating	1904		✓		✓

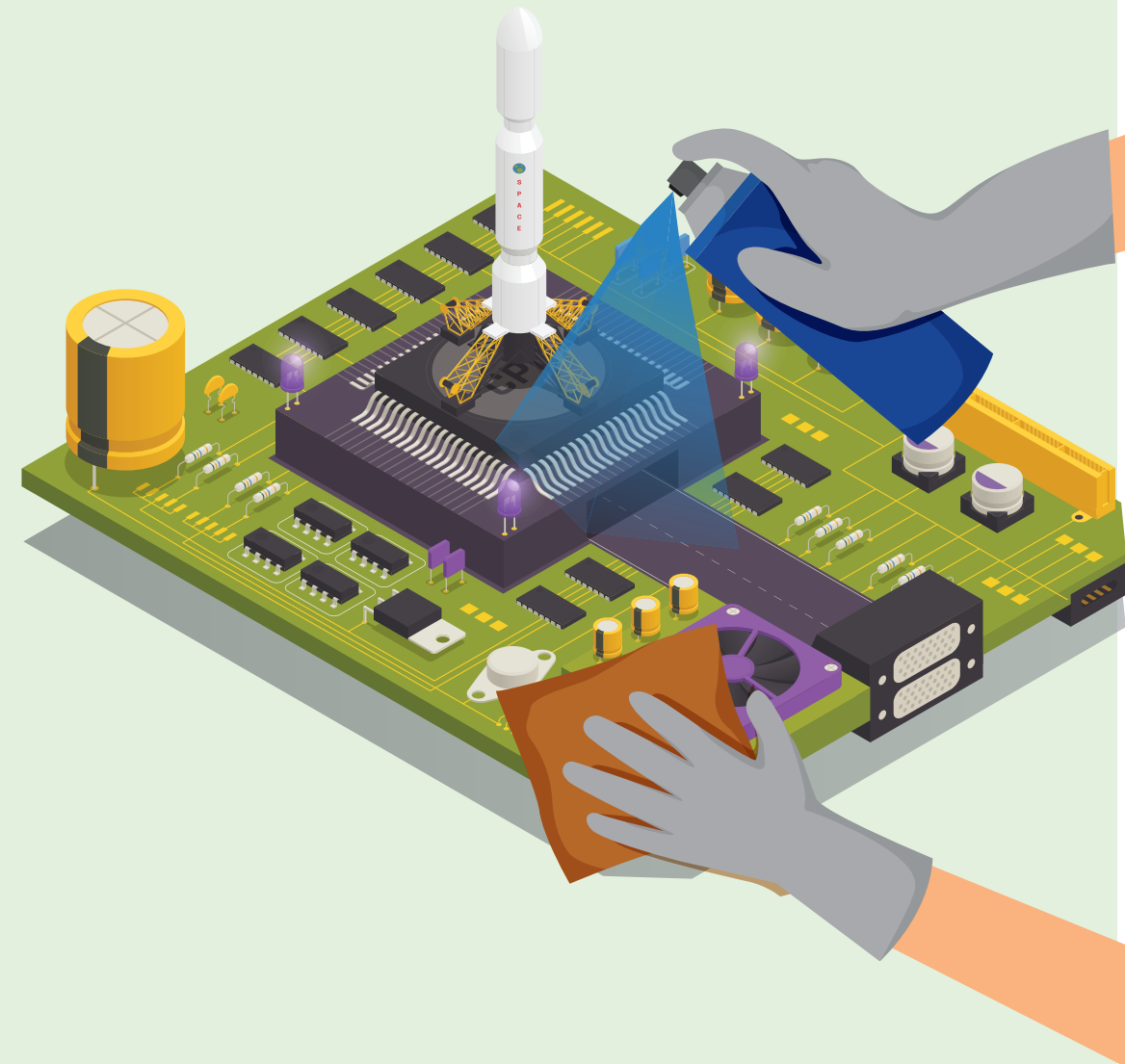
CONTACT FOR CONSULTATION!

Qualifying

Key factors to qualify replacement products

1. PERFORMANCE SPECIFICATIONS

3M Novec Product Series	Key Performance Criteria
Cooling Liquids	<ul style="list-style-type: none">• Thermal Conductivity• Dielectric Properties• Chemical Stability• Boiling Point• Heat Transfer Efficiency
Cleaners	<ul style="list-style-type: none">• Cleaning Efficiency• Residue Levels• Evaporation Rate• Material Compatibility• Solvent Power
Coatings	<ul style="list-style-type: none">• Adhesion• Durability• Protective Qualities (e.g., moisture, corrosion resistance)
Fire Suppressants	<ul style="list-style-type: none">• Extinguishing Effectiveness• Discharge Time• Safety (Toxicity, Flammability)
Lubricants	<ul style="list-style-type: none">• Lubrication Efficiency• Viscosity• Temperature Stability• Chemical Compatibility



Manufacturers should conduct Laboratory Testing to assess the **performance and compatibility** of new materials with existing products and manufacturing processes. Please contact Prostech for assistance in conducting material quality tests and advice on optimizing new production processes.

2. REGULATORY COMPLIANCE

- GWP and ODP: Ensure low or zero Global Warming Potential (GWP) and Ozone Depletion Potential (ODP).
- Industry Standards (e.g., UL, IEC, RoHS).
- Environmental Regulations: Confirm compliance with environmental laws and standards.

3. SAFETY AND HEALTH

- Flammability: Verify the replacement is non-flammable or has a low flammability rating.
- Toxicity: Ensure the product is non-toxic and safe for handling and use.
- MSDS Review

4 COST EFFECTIVENESS

- Initial Cost: Compare the purchase price of the replacement product.
- Operational Costs: Evaluate maintenance, energy consumption, and other operational costs.
- Total Cost of Ownership (TCO): Consider the overall cost including disposal and replacement cycle.

5. VENDOR RELIABILITY

- Supply Chain Security: Ensure a stable and secure supply chain to avoid disruptions.
- Customer Support: Check the level of technical and customer support provided by the vendor.



We assure cost-effective products complemented by dedicated support, encompassing everything from laboratory testing to the handling and storage of Dangerous Goods (DG), while ensuring stable supply chains through our experienced team.

For reliable alternatives to 3M Novec and Fluorinert products, contact us today for comprehensive assistance.



**DIRECTLY
REPLACEMENT
PRODUCTS**



**FPAS-FREE
CLEANER
SOLUTION**



**CUSTOMER
SAMPLE
TESTING
SUPPORT**



**GLOBAL
DELIVERY**



**AVAILABLE
FOR SHIPPING**



**AUTOMATE
AND OPTIMIZE
PRODUCTION
PROCESS**

**Get Ready Today for
Unpredictable
Supply Tomorrow**

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