

**MicroCare™**  
ENGINEERED FLUIDS

# HFE7300

**Cleaning Agent, Carrier Fluid and Particle Displacer**

Use for electronics cleaning and lubricant deposition

- Ideal replacement for 3M™ Novec™ 7300 Engineered Fluid
- Effective replacement for PFPEs, PFCs, HCFCs, and HFCs, enabling greener operations

## Introduction

MicroCare™ HFE7300 Engineered Fluid is a clear, colorless, and odorless hydrofluoroether (HFE) fluid designed for various applications, including lubricant deposition, electronic testing, and precision cleaning. Its unique properties make it a versatile solution for industries requiring high performance, environmental compliance, and safety.

## Benefits

- Non-flammable for improved workplace safety
- Reduces flammability in blends, offering safer handling and operational safety
- Very low global warming potential (GWP), contributing to climate protection
- Non-ozone depleting, ensuring minimal environmental impact
- Fast drying for improved process efficiency
- Low surface tension, viscosity, and high liquid density enable excellent wetting, permeability, and penetration for enhanced cleaning and coating effectiveness
- Compatible with ultrasonic cleaning systems for precision cleaning applications
- Non-corrosive, ensuring compatibility with a wide range of materials
- Superior thermal performance for efficient cooling and thermal management
- Provides reliable chemical and thermal stability

## Use Procedures

It is recommended that MicroCare™ HFE7300 Engineered Fluid be used in a vapor degreaser or closed-loop system to maximize cleaning efficiency, economy, and emission control. Cleaning procedures for MicroCare™ HFE7300 are like those of conventional vapor degreasing products. The procedures consist of immersing a workload into the vapor or boiling solvent, rinsing with solvent, and then drying in the solvent vapor. Coating can be conducted by mixing the coating material with MicroCare™ HFE7300 Engineered Fluid and dipping a workload into the coating bath followed by air drying.

## Recovery

MicroCare™ HFE7300 Engineered Fluid is recoverable by simple distillation, either by using a vapor degreaser or a simple still apparatus, reducing waste and operational costs.

Recovery should be closely watched to ensure that the operating levels are maintained. Spent ingredients and still bottoms need to be disposed of according to Federal, State and local regulations.



**Replacements for  
3M™ Novec™  
Engineered Fluids**

We offer chemically equivalent fluid formulas for the ones you already rely on, delivering the same high-quality cleaning performance without costly operational changes.

Our products meet or exceed 3M Novec™ performance standards, and as a leading supplier of high-purity HFEs, we ensure they pass the industry's most stringent quality metrics.

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## Applications

- Electronics precision cleaning
- Lubricant deposition on hard disk drive media
- Thermal management to support optimal operating temperatures during high-semiconductor manufacturing

## Specifications

**Table 1. Physical Properties**

Appearance	Clear, colorless
Molecular Weight	350
Boiling Point (°C) @ 760 mmHg	98.0
Freeze Point (°C)	-38
Liquid Density (g/ml)	1.66
Surface Tension (dynes/cm)	15
Solubility of Solvent in Water (ppmw)	586
Solubility of Water in Solvent (ppmw)	67
Vapor Pressure (mmHg)	44.9
Viscosity (cSt)	0.71
Viscosity @-35°C (cSt)	3.51
Heat of Vaporization (cal/g @ boiling point)	24.3

**Table 2. Product Comparison Chart**

Property	MicroCare™ HFE7300	Opteon™ SF33	Vertrel™ XF	Tergo™ PF100	Teres™
BP (C)	98	33	55	56	51
KB value	<20	<20	<20	<20	<20
Specific Gravity	1.53	1.36	1.58	1.47	1.39
Surface Tension (dyne/cm)	15	13	14.1	16.4	15
GWP	200	2	1650	580	27
Plastic Compatibility	Good	Good	Good	Good	Fair

## Materials Compatibility

MicroCare™ HFE7300 Engineered Fluid is compatible with most metals and hard polymers such as:

Short-Term Exposure Compatibility		
Metals	Plastics	Elastomers
Stainless Steel	Polycarbonate	EPDM
Nickel	PMMA	Natural Rubber
Copper	ABS	Polyurethane
Aluminum	Polypropylene	
Monel	Polyethylene	

*Elastomeric materials should be limited to those compounds that contain the least amount of extractible plasticizer.*

## Environmental Health and Safety

Ozone Depletion Potential (ODP) <sup>1</sup>	None
Global Warming Potential (GWP) <sup>2</sup>	200
Atmospheric Lifetime (years)	3.8

<sup>1</sup> HCFC-225 ca/cb ratio is 45/55

<sup>2</sup> CFC-11 = 1.0

## Storage and Handling

Before using this product, carefully read and follow all precautions and directions provided on the product label and in the Safety Data Sheet (SDS).

MicroCare™ HFE7300 Engineered Fluid is nonflammable and highly resistant to thermal breakdown and hydrolysis during storage and use. It is thermally and hydrolytically stable, keeping integrity under normal storage conditions without oxidation or degradation. To ensure the best performance, store containers in a clean, dry area away from direct sunlight, with a recommended storage temperature not exceeding 30°C.

For detailed handling and safety recommendations, refer to the SDS, available from your local representative or online at [microcare.com](http://microcare.com).



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