MicroCare™
ENGINEERED FLUIDS

7100DL

Specialty Cleaning Fluid, Flux Remover and Carrier Fluid

Use for lubricant deposition, precision cleaning and particulate removal.

- Removes particulates, ionic contamination, metals and non-volatile residue.
- High-purity fluid designed specifically for the disk drive industry.

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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Introduction

MicroCare™ 7100DL Engineered Fluid is a high-purity, non-flammable specialty fluid designed for precision cleaning and deposition applications in industries requiring stringent contamination control. It is an ideal solution for high-reliability electronics manufacturing, particularly in the disk drive industry for lubricant deposition and head gimbal assembly cleaning. Its low surface tension and excellent solubility for fluorinated lubricants make it well-suited for aerospace, medical, and other demanding applications.

Benefits

- Lubricant Deposition on Hard Disk Media – Ensures uniform coating with excellent solubility for fluorinated lubricants, enhancing performance and reliability.
- Cleaning Head Gimbal Assemblies – Provides thorough yet gentle cleaning with low surface tension and viscosity for superior surface wetting.
- Particulate Removal in High-Reliability Devices – Effectively eliminates contaminants while being non-flammable and low in toxicity, ensuring safety and compliance.

Applications

- Applying lubricants and lubricant additives to hard disk media
- Cleaning head gimbal assemblies during manufacturing
- Removing particulates from high-reliability devices

Use Procedures

It is recommended that MicroCare™ 7100DL Engineered Fluid be used in a vapor degreaser or closed-loop system to maximize cleaning efficiency, economy, and emission control. Cleaning procedures for MicroCare™ 7100DL 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.

Recovery

MicroCare™ 7100DL 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.

Specifications

Table 1. Physical Properties

Molecular Weight	250
Boiling Point (°C)	61
Freeze Point (°C)	-135
Liquid Density (kg/m^3)	1510
Surface Tension (dynes/cm)	13.6
Solubility of Solvent in Water (ppmw)	12
Solubility of Water in Solvent (ppmw)	95
Vapor Pressure (mmHg)	27
Absolute Viscosity (cP)	<1.0
Heat of Vaporization (kJ/kg at bp)	112
Specific Heat (J/kg·K)	1183

Materials Compatibility

MicroCare™ 7100DL Engineered Fluid is compatible with most metals and hard polymers such as:

Short-Term Exposure Compatibility		
Metals	**Plastics**	**Elastomers[1]**
Aluminum	Acrylic (PMMA)	Butyl Rubber[2]
Molybdenum	Epoxy	Natural Rubber
Copper[3]	Polyethylene	Nitrile Rubber
Tantalum	PET	EPDM
Carbon Steel	Polypropylene	
Tungsten	Phenolic	
302 Stainless Steel	Polycarbonate	
Cu/Be Alloy C172	ABS	
Brass	Polyester	
Mg Alloy AZ32B		

(1) As with most fluorinated liquids, MicroCare™ 7100DL fluid will absorb into fluorinated plastics (e.g. PTFE) and elastomers (e.g. FFKM, FKM types) over longer exposures. Absorption and swelling of silicone rubber are also observed.

(2) Butyl Rubber best for extended exposure > one month.

(3) Some surface oxidation of copper during testing.

Environmental Health and Safety

Ozone Depletion Potential (ODP)[1]	None
Global Warming Potential (GWP)[2]	297
Atmospheric Lifetime (years)	3.8

[1] *HCFC-225 ca/cb ratio is 45/55*
[2] *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™ 7100DL 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.

MicroCare.com

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