MicroCare[™] ENGINEERED FLUIDS



Specialty Cleaning Fluid, Flux Remover, and Carrier Fluid

Use for medium to heavy-duty degreasing and coating, and lubricant deposition.

- Ideal replacement for 3M[™] Novec[™] 73DE Engineered Fluid
- · Removes oils, waxes, and silicone residues
- Replaces n-propyl bromide (nPB or 1-bromopropane), ozone-depleting hydrochlorofluorocarbons (HCFCs) and trichloroethylene (TCE)

Introduction

MicroCare[™] 73DE Engineered Fluid delivers effective cleaning results with outstanding environmental and safety profiles. It is compatible with vapor degreasing systems for efficient, high-performance cleaning.

Benefits

- Effectively removes heavy greases, oils, waxes, silicones, and non-polar flux residues.
- Not classified as a hazardous air pollutant (HAP), with fewer regulatory restrictions than chlorinated solvents.
- Nonflammability enhances workplace safety compared to traditional solvents.
- Low global warming potential (GWP) and zero ozone depletion potential (ODP).
- Compatible with most metals and solvent-resistant plastics.
- Conforms to several ASTM aerospace material compatibility standards.

Applications

- Vapor degreasing for heavy-duty industrial cleaning.
- · Effective in removing heavy greases, oils, and waxes.
- · Cleans silicones and other stubborn residues.
- · Removes non-polar flux residues from electronics.
- Used in lubricant deposition applications requiring high solvency.
- Used for cleaning aerospace and automotive parts without corrosion risk.
- Ideal for cleaning precision medical instruments and optical components.

Use Procedures

It is recommended that MicroCare[™] 73DE Engineered Fluid be used in a vapor degreaser or closed-loop system to maximize cleaning efficiency, economy, and emission control. Cleaning procedures for MicroCare[™] 73DE 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[™] 73DE Engineered Fluid and dipping a workload into the coating bath followed by air drying.

Recovery

MicroCare[™] 73DE 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.



Specifications

Table 1. Physical Properties

Boiling Point (°C)	48
Liquid Density (g/ml)	1.28
Surface Tension (dynes/cm)	19.9
Kauri-Butanol Value	83
Vapor Pressure (mmHg)	263
Viscosity (cSt)	0.38
Heat of Vaporization (cal/g @ boiling point)	54.2

Table 2. Product Comparison Chart

Property	MicroCare [™] 73DE	n-PB	TCE	Vertrel [™] SDG	Tergo [™] HDF	Tergo [™] XCF3
BP (C)	48	71	87	43	46	46
KB value	83	125	129	95	115	115
Specific Gravity	1.28	1.35	1.46	1.29	1.27	1.29
Surface Tension (dyne/cm)	19.9	25.9	29.3	21.2	21	21
GWP	47	16	630	148	11	<1
Plastic Compatibility	Poor	Poor	Poor	Poor	Poor	Poor

Materials Compatibility

MicroCare[™] 73DE Engineered Fluid is compatible with most metals and hard polymers such as:

Short-Term Exposure Compatibility					
Metals	Plastics	Elastomers			
Copper	Acetal	DuPont [™] Kalrez [™] Perfluoroelastomers			
Brass	Ероху	Butyl Rubber			
Stainless Steel	Nylon	Parfluor [™] Perfluoroelastomers			
Magnesium	PEEK	Viton [™] Fluoroelastomer			
Titanium	Polyester	Polyurethane			
Aluminum	Polyethylene				
Carbon Steel	Polypropylene				
Cadmium	PTFE				

Environmental Health and Safety

Ozone Depletion Potential (ODP) ¹	None
Global Warming Potential (GWP) ²	47
Flash Point	None

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[™] 73DE 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.



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