MicroCare™
ENGINEERED FLUIDS

71DA

Specialty Cleaning Fluid, Flux Remover and Degreaser

Use for degreasing and defluxing

- Ideal replacement for 3M™ Novec™ 71DA Engineered Fluid
- Removes solder fluxes, greases, oils and waxes

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™ 71DA Engineered Fluid delivers effective cleaning results with outstanding environmental and safety profiles. It is a true azeotrope with constant vapor and liquid composition at its boiling point.

Benefits

- A true azeotrope ensures constant vapor and liquid composition during boiling, improving cleaning reliability.
- Enhanced solvency and low surface tension improve penetration and removal of contaminants, including ionic residues.
- Nonflammable properties ensure safer handling and use under standard operating conditions.
- Zero ozone depletion and low global warming potential (GWP).
- Complies with U.S. EPA's Significant New Alternatives Policy (SNAP).
- High exposure guidelines for its components allow for safe use in industrial settings.
- Resistant to thermal breakdown and hydrolysis during storage and use, ensuring product longevity.

Applications

- Removes solder flux residues, oils, greases, waxes, and handling oils from electronic components.
- Used as a cleaning, rinsing, and drying agent for delicate and high-precision parts.
- Suitable for applying uniform coatings of silicones and other lubricants.

Use Procedures

It is recommended that MicroCare™ 71DA Engineered Fluid be used in a vapor degreaser or closed-loop system to maximize cleaning efficiency, economy, and emission control. Cleaning procedures for MicroCare™ 71DA 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™ 71DA Engineered Fluid and dipping a workload into the coating bath followed by air drying.

Recovery

MicroCare™ 71DA 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

Formulation	Azeotrope[1]
Boiling Point (°C)	40
Freeze Point (°C)	-29[2]
Liquid Density (g/ml)	1.33
Surface Tension (dynes/cm)	16.4
Kauri-Butanol Value	33
Vapor Pressure (mmHg)	381
Viscosity (cSt)	0.45
Heat of Vaporization (cal/g @ boiling point)	50

[1] 52.7% $C_4F_9OCH_3$, 44.6% trans-1,2-dichloroethylene and 2.7% ethanol
[2] Critical Solution Temperature

Property	MicroCare™ 71DA	Vertrel™ SFR	Vertrel™ SMT	Tergo™ SFR	Tergo™ GCF
BP (C)	40	41	37	47	42
KB value	33	101	38	128	38
Specific Gravity	1.33	1.28	1.37	1.23	1.35
Surface Tension (dyne/cm)	16.4	19.9	15.5	20	18
GWP	170	264	689	32	274
Plastic Compatibility	Fair	Poor	Fair	Poor	Fair

Plastic and Elastomer Compatibility

Most plastics and elastomers can be safely cleaned in MicroCare™ 71DA Engineered Fluid. The tables below summarize test results on short-term exposures of unstressed plastics and elastomers simulating a typical cleaning cycle.

Long-term exposure data simulating exposure of vapor degreaser construction materials is available upon request.

Elastomer swelling and shrinking will, in most cases, revert to within a few percent of original size after air drying. Swell, shrinkage, and extractables are strongly affected by the compounding agents, plasticizers, and curing used in the manufacture of plastics and elastomers. Therefore, prior in-use testing is particularly important.

Plastic Compatibility

Compatible	
HDPE	PTFE / Teflon
LDPE	FEP
PP	Liquid Crystal Polymer
Polyester	PFA
PET	PVDF
PBT	PEEK
Acetal	Phenolic
Nylon	

Elastomer Compatibility

Compatible	
High Density NBR	Butyl Rubber
Neoprene	Polyurethane
Kalrez	Viton®

Environmental Health and Safety

Ozone Depletion Potential (ODP)[1]	None
Global Warming Potential (GWP)[2]	170
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™ 71DA 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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