



MICROCARE SSF SMOOTHING STATION FLUID

Introduction

The *MicroCare* SSF Smoothing Station Fluid is a nonflammable fluid consisting of hydrofluorocarbons and trans-1,2-dichloroethylene. It is formulated to replace n-propyl bromide and trichloroethylene when used in 3D Printing machines for smoothing. For specifics on how to use this material with your 3D printer, please refer to your machine owners manual or contact its manufacturer. This Technical Information Sheet summarizes product properties, safety, health, environmental and regulatory information related to *MicroCare* SSF Smoothing Station Fluid. Users should also consult the product Safety Data Sheet (SDS) for additional information.

Applications

This fluid is ideally suited for use in both heated and in cold, or ambient temperature uses. It has enhanced solvency for a wide range of substrates and will readily dissolve oils, greases, waxes and cutting fluids. In addition to its uses for smoothing and removing surface irregularities in geometries generated in a 3D printer, The *MicroCare* SSF Smoothing Station Fluid has a broad range of cleaning capabilities. See below for a list of typical soils readily removed from parts:

Cutting Oils	Gear Oils
Heavy Greases	Hydraulic Oils
Stamping Oils	Silicone Oils & Grease
Wax	Mineral Oils

Safety/Flammability

The *MicroCare* SSF Smoothing Station Fluid exhibits no flash point. It is not classified as a flammable liquid by NFPA or DOT:

Closed Cup Flash Point (ASTM-D93)	None
Open Cup Flash Point (ASTM-D1310)	None
Lower Explosion Limit	7.0 (% by volume)
Upper Explosion Limit	14.0 (% by volume)

Flash point data and limits of flammability in air provide the user with additional information that should be used as elements of a fire risk assessment and to define guidelines for the safe handling of volatile chemicals. Users should assure compliance with NFPA standards and local fire codes.

Material Compatibility

The *MicroCare* SSF Smoothing Station Fluid is compatible with metals. Contact with highly basic materials, pH 10 and above, is not recommended.

Plastics that may show signs of softening, swelling or other changes include acrylic, ABS and polycarbonate. Elastomers, if affected, will generally revert to within a few percent of original size after air-drying. Prior-to-use, testing of plastics and elastomers should be performed under conditions expected during normal operation (e.g., time in contact with *MicroCare* SSF Smoothing Station Fluid, temperature, etc.).

This product has properties that make it easily recoverable by off-line or in-line distillation equipment such as a still. The presence of soils in the fluid, however, may alter the characteristics of the material during recovery operations. Recovery should be closely monitored to ensure operating levels are maintained.

Environmental Legislation

The ingredients of this formula are listed as "Acceptable" by the U.S. Environmental Protection Agency (EPA) under the Significant New Alternatives Policy (SNAP) program as a substitute for ozone depleting substances in the solvent category.

Environmental Properties:

Ozone-Depletion Potential (ODP)	0
Global Warming Potential (GWP/ 100 yr. ITH)*	148
Volatile Organic Compounds (VOC, g/liter)	1150

* Based on IPCC Second Assessment Report values.

All components are listed in the TSCA inventory. Refer to the SDS for additional regulatory information.

Safety/Exposure Limits

Data from acute toxicity studies has demonstrated that the *MicroCare* SSF Smoothing Station Fluid has low toxicity. It has a calculated AEL (Acceptable Exposure Limit) of 193 ppm based on its individual components. AEL is a manufacturer assigned airborne inhalation exposure limit that specifies time-weighted average concentrations to which nearly all workers may be repeatedly exposed without adverse effects. The calculated AEL is in accordance with ACGIH formulas for TLVs for mixtures. The *MicroCare* SSF Smoothing Station Fluid is a slight skin and eye irritant and has low acute inhalation toxicity.

Please refer to the product SDS for additional information on detailed exposure limits and toxicity-related data.

Storage/Handling

The *MicroCare* SSF Smoothing Station Fluid is thermally stable and does not oxidize or degrade during storage. Store in a clean, dry, area out of direct sunlight and other sources of heat. Protect from freezing temperatures. If this cleaning fluid is stored below -10°C (14°F), mix prior to use. Do not allow stored product to exceed 52°C (125°F) to prevent leakage or potential rupture of container from pressure and expansion.

Drum pumps are recommended to dispense this solvent from its container. Refer to the Safety Data Sheet for specific handling precautions and instructions.

Specifications

Composition and specifications are detailed below:

Hydrofluorocarbon mixture	17-20 wt%
1,2-trans-Dichloroethylene	80-83 wt%
Water	< 200 ppm
Appearance	Clear, colorless
Non-volatile residue	< 10 ppm (drums) or < 50 ppm (pails)

All ingredients are listed in the TSCA Inventory.

Ordering Information

# MCC-SSFD	500 lb. (55 gallon) Steel Drum
# MCC-SSFGP	45 lb. (5 gallon) Steel Pail

MicroCare Corporation

595 John Downey Drive
New Britain, CT 06051
Telephone: (860) 827-0626
Toll Free: (800) 638-0125
Email: techsupport@microcare.com

www.MicroCare.com

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MicroCare Europe BVBA

Havendoklaan 19
Cargovil Vilvoorde, B-1804 Belgium
Telephone: 0032-2-251-95-05

MicroCare Asia Ote. Ltd.

102E, Pasir Panjang Road
Singapore 118529
Telephone: (65) 6271-0182