TECHNICAL DATA SHEET

TMC HFE-377

TMC HFE-377 is for INDUSTRIAL USE only. It is not designed for consumer use. TMC HFE-377 is a precision cleaning solvent mixture of 1,2-trans-dichloroethylene and proprietary fluorinated compounds. It was designed with no HFCs, for cleaning applications as a direct substitute for solvents like nPB, Chemours Vertrel®, 3M Novec®, HCFC-225 and others.

This Technical Data Sheet (TDS) details TMC HFE-377 physical and chemical properties, environmental profile, health, and safety information for typical applications. For further information please consult the Safety Data Sheet. (SDS)

Features

- **ZERO SURFACE RESIDUE**
- **LOW SURFACE TENSION**
- **LOW VISCOSITY**
- **NON-FLAMMABLE**
- **NO FLASH POINT**
- **HIGH SOLVENCY**
- **ZERO OZONE DEPLETION**
- **GWP OF 87**

Packaging Information

Sold in:

- *1 gal. Bottle - 12 lbs (5 kg)*
- *5 gal. Pail - 50 lbs. (25 kg)*
- *55 gal. Drum - 550 lbs. (250 kg)*

Applications

TMC HFE-377 is our newest 1,2 trans blend which contains no HFCs. This solvent blend is perfectly suited for vapor degreasing in modern equipment and general cleaning. Its solvency for hydrocarbon soils is superior to most similar high-trans fluorinated solvent blends. With a high KB value of 94, it can reliably replace other cleaning solvents such as n-propyl bromide (nPB) and trichloroethylene (TCE). It can also be used as a carrier fluid for deposition of materials such as silicone and other lubricants.

TMC HFE-377 has broad spectrum cleaning capability for many types of contaminants including cutting oils, heavy greases, stamping oils, gear oils, hydraulic oils, vacuum oils, mineral oils, waxes, and refrigerant oils.

Materials Compatibility

TMC HFE-377 is compatible with most polymers and elastomers typically encountered during cleaning and vapor degreasing of precision parts, electronics, etc.

The solvent is also compatible with stainless steel, aluminum, iron, and every other metal commonly used in precision parts manufacturing. A complete reference chart showing plastics and elastomers compatibility is shown on page 2.

Testing should always be done on parts to be cleaned in a particular process prior to implementing TMC HFE-377 into the process.

COMPATIBLE MATERIALS

Polyethylene	Polypropylene
Polyvinylchloride (PVC, CPVC)	Acetal
Polyester (PET, BET)	Epoxy
Polyimide (PI, PEI, PAI)	PTFE, Teflon
Polyetherketone (PEK)	Polysulfone (PSO)
Polyaryletherketone (PEEK)	Phenolic
Polyarylsulfone (PAS)	Ionomer
Polyphenylene Sulfide (PPS)	EPDM

INCOMPATIBLE MATERIALS

Polystyrene	Epichlorohydrin
Polyphenylene Oxide (PPO)	Silicone
Polycarbonate	Natural Rubber
ABS	Acrylic

Properties

Appearance	Clear & Bright
Flash Point	None
Boiling Point	45.5°C
KB Value	94
Specific Gravity	1.305 g/mL @ 25°C
Viscosity	0.41CP @ 20°C*
Heat Capacity	0.270 cal/g @ 20°C*
Vapor Pressure	292 mmHg @ 20°C*
Vapor Flammability in Air	Lower Limit – 5.7%* Upper Limit – 19%*
VOC Content	1115 g/L
GWP	87

*Calculated from 1.,2 trans-dichloroethylene

Environmental Properties

TMC HFE-377 ingredients are listed acceptable by the U.S. EPA under the SNAP program as a substitute for ozone depleting substances, are not subject to SARA Title III (EPCRA) reporting regulation. It is not considered a Hazardous Air Pollutant (HAP) and therefore is not regulated under NESHAP.

Spent TMC HFE-377 is not considered hazardous waste in the US as long as a hazardous material is not deposited into the solvent during the cleaning process.

Flammability

TMC HFE-377 exhibits no flash point on either Pensky-Martens Closed Cup (ASTM D93) or Tag Closed Cup (ASTM D56) methods and is not classified as flammable by OSHA or DOT. However, as is true with almost all halogenated solvents, it does have flammable limits in air in the presence of a high ignition energy source (e.g., a welding torch).

TMC- 377 is not classified as flammable or hazardous for transport by DOT.

Health & Safety

Refer to the SDS for detailed description of the figures for the individual chemical component of TMC HFE-377 and required/ recommended PPE.

Storage and Handling

TMC HFE-377 is thermally stable and will not oxidize or degrade during storage under normal conditions. It is recommended to store the product inside a clean, dry area and out of direct sunlight or other heat sources. Do not freeze or store below 32°F (0°C) nor above 105°F (40.5°C) to prevent leakage or potential rupture of container due to contraction/expansion and pressure changes. Drum pumps are recommended to dispense the solvent from its container. Refer to the Safety Data Sheet for more information or contact TMC for further assistance.

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