TECHNICAL DATA SHEET

TMC-7200

The low surface tension and low viscosity of TMC-7200 fluid make it ideal for use in vapor degreasing and cold cleaning applications. In addition, its chemical and thermal stability, nonflammability, and low toxicity make it useful for other industrial applications such as specialty solvent and heat transfer applications. TMC 7200 fluid has a higher boiling point than most CFCs, HCFCs, and HFCs, reducing evaporative losses.

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Features

- **REPLACEMENT TO 3M™ NOVEC™ 7200 ENGINEERED FLUID**
- **ZERO OZONE DEPLETION POTENTIAL (ODP)**
- **NON-FLAMMABLE**
- **NO FLASH POINT**
- **RoHS COMPLIANT**

Packaging Information

Sold in:

- *1 gal. Bottle - 12 lbs (5 kg)*
- *5 gal. Pail - 44 lbs. (20 kg)*
- *55 gal. Drum - 550 lbs. (250 kg)*

Applications

CFC, HCFC, HFC and PFC Replacement Agent • Lubricant Carrier, Fluorocarbons, Hydrocarbons and Silicones • Cold Cleaner (Flex Circuits, Wipe Solvent) • Cleaning and Rinsing Agent for Vapor-Degreasing • Specialty Solvents, Dispersion Medium, Reaction Medium, Extraction Solvent • Heat Transfer Fluid • Light-Duty Cleaning (Neat)–Particulates, Fluorolubes, Light Oils, Fluoropolymers

Materials Compatibility

TMC-7200 fluid is compatible with most metals and hard polymers. Soft and elastomeric materials should be limited to compounds that contain the least amount of extractable plasticizer.

Toxicity Profile

The toxicological testing completed on TMC-7200 fluid shows the overall toxicity is low. The material is minimally irritating to the eyes, non-irritating to the skin and is not a mutagen. This material is rated “practically non-toxic” through inhalation.

Regulatory Status

TMC-7200 fluid has been approved under the Significant New Alternatives Policy (SNAP) of the U.S. EPA. TMC-7200 fluid has been excluded by the U.S. EPA from the definition of a VOC on the basis that this compound has negligible contribution to tropospheric ozone formation.

Storage

Store in a tightly closed original container. Store away from acids, strong bases and oxidizing agents.

Chemical Name: Ethoxy-nonafluorobutane
Molecular Formula: $C_4F_9OC_2H_5$

Physical Properties

Average Molecular Weight	264g/mol
Boiling Point	76°C
Pour Point	-138°C
Calculated Critical Temperature	210°C
Calculated Critical Pressure	2.01Mpa
Vapor Pressure	109mmhg
Latent Heat of Vaporization	119kJ/kg
Liquid Density (25°C)	1430kg/m^3
Kinematic Viscosity	0.41cSt
Absolute Viscosity	0.58(cP)
Liquid Specific Heat	1220J/kg-K
Coefficient of Expansion	0.0016K^{-1}
Surface Tension	13.6mN/m
Dielectric Strength	>32kV
Dielectric Constant@1kHz	7.3
Volume Resistivity	10^8Ohm-cm
Solubility of Solvent in Water	<20ppm
Solubility of Water in Solvent	92ppm
Ozone Depletion Potential	0
GWP	55
Thermal Conductivity of Liquids @ 25°C, ASTM D 2717, W/m.K	0.075
Viscosity, Kinematic, at 25°C, cSt, ASTM D 445.a, cSt	0.47
Viscosity, Kinematic, at -20°C, cSt, ASTM D 445.a, cSt	0.81
Viscosity, Kinematic, at 0°C, cSt, ASTM D 445.a, cSt	0.63
Density and Relative Density of Liquids by Digital Density Meter @ 25°C, Density, ASTM D 4052, g/cm^3	1.4243
Vapor Pressure-Temperature of Liquids by Isoteiscope @ 100°F, ASTM D 2879, psia	3.424
Viscosity, Dynamic @ 40°C, Dynamic Viscosity, ASTM D 7042, cP	0.561
Viscosity, Dynamic @ 100°C, Dynamic Viscosity, ASTM D 7042, cP	0.338
Residue by Evaporation, In-House µg/mL	<10
Pour Point of fluorinated heat transfer fluid, ASTM D 97, °F	<-100

Distillation, ASTM D 86.b

	Results
Initial Boiling Point, °C	76
5% Recovered, °C	76
10% Recovered, °C	76
15% Recovered, °C	76
20% Recovered, °C	70
30% Recovered, °C	76
40% Recovered, °C	76
50% Recovered, °C	76
60% Recovered, °C	76
70% Recovered, °C	76
80% Recovered, °C	76
90% Recovered, °C	76
100% Recovered, °C	76
Percent Recovery, %	100.0
Percent Residue, %	0.0
End Point, %	100
Loss, %	0.0

Recycle and Reclamation

Why pay for expensive disposal services, when TMC Industries can reclaim your used fluorinated fluids, restoring them to like-new condition, saving you up to 50% in replacement fluids? TMC Industries also buys and resells used fluorinated fluids. Contact us for more details.

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