

TMC-7100

TMC-7100 is designed to replace ozone-depleting substances in many applications. This CFC replacement fluid has one of the best toxicological profiles with a 750 ppm (eight hour average) time-weighted average exposure guideline.

The chemical and thermal stability, along with a high boiling point and low surface tension, make it ideal for use in vapor degreasing, along with many other industrial and specialty solvent applications.

Features

- REPLACEMENT TO 3M™ NOVEC™ 7100
- ZERO OZONE DEPLETION POTENTIAL (ODP)
- LOW GWP
- NON-FLAMMABLE
- HIGH BOILING POINT
- LOW SURFACE TENSION
- 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

- Heat Transfer
- Immersion Cooling for Data Centers
- Used in vapor degreasers and general solvent cleaner
- Cleaning, Data Center Cooling
- Electronic Cooling
- Oxygen System Cleaning
- Deposition Solvent
- Preservation of Biological Specimens

Materials Compatibility

Material	Compatibility
Plastics	Excellent
Acrylics	Excellent
ABS/Polycarbonate	Excellent
Metals	Excellent
Ceramics	Excellent
PEEK	Excellent
Epoxy	Excellent
PTFE	Excellent
Nylon	Excellent
Silicones	Good

Properties

Molecular Formula: $C_4F_9OCH_3$

Physical Properties

Average Molecular Weight	250(g/mol)
Boiling Point	61(°C)
Pour Point	-135(°C)
Calculated Critical Temperature	195(°C)
Calculated Critical Pressure	2.23(Mpa)
Vapor Pressure	202(mmHg)
Latent Heat of Vaporization	112(kJ/kg)
Liquid Density (25°C)	1520(kg/m ³)
Kinematic Viscosity	0.38(cSt)
Absolute Viscosity	0.58(cP)
Liquid Specific Heat	1183(J/kg-K)
Coefficient of Expansion	0.0018(K ⁻¹)
Surface Tension	13.6(mN/m)
Dielectric Strength	>25(kV)
Dielectric Constant@1kHz	7.4
Volume Resistivity	10 ⁸ (Ohm-cm)
Solubility of Solvent in Water	12(ppm)
Solubility of Water in Solvent	95(ppm)
Kauri-butanol Value	10(Kb)
Operational Range	-104(°C) to 50(°C)
NVR	<2.0

Environmental and Safety Properties

Ozone Depletion Potential-ODP1	0.00
Global Warming Potential	320
Atmospheric Lifetime (years)	4.1
Flash Point	None
Flammability Range in Air	None
Exposure Guidelines (8 hr. time-weighted average)	750
Exposure Ceiling (ppm)	None

Toxicity Profile

Acute Lethal Inhalation Concentration	>100,000 ppm(4 hour)
Eye Irritation	Practically Non-Irritating
Skin Irritation	Minimally Irritating
Oral	Practically Non-Irritating
Skin Sensitization	Not a Skin Sensitizer
Cardiac Sensitization	No Signs of Sensitization at Exposures up to 100,000ppm
Ecotoxicity Testing	Complete - Very Low Aquatic Toxicity

Vapor Pressure and Density

The variation of vapor pressure and density with temperature for TMC-7100 can be calculated using the following formulas:

$$\text{Vapor Pressure: } \ln P = 22.415 - 3641.9 [1/(t+273)]$$

$$\text{Density: } D = 1.5383 - 0.002269t$$

P = Vapor Pressure in Pascals

t = Temperature in °C

D = Density in g/ml

Distillation, ASTM D 86.b

	Results
Initial Boiling Point, °C	59
5% Recovered, °C	60
10% Recovered, °C	60
15% Recovered, °C	60
20% Recovered, °C	60
30% Recovered, °C	60
40% Recovered, °C	60
50% Recovered, °C	60
60% Recovered, °C	60
70% Recovered, °C	60
80% Recovered, °C	60
90% Recovered, °C	60
100% Recovered, °C	60
Percent Recovery, %	100.0
Percent Residue, %	0.0
End Point, %	100
Loss, %	0.0

Safety & Handling

TMC-7100 is nonflammable and does not exhibit flammability characteristics under normal operating and storage conditions. Recommended handling and procedures are provided in the SDS.

Storage

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

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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