



GLOBAL LEADER PROVIDING
PERFORMANCE FLUIDS & LUBRICANTS

TECHNICAL DATA SHEET

TMC-7100 ENGINEERED FLUID

TMC-7100 Engineered Fluid is a miscible drop-in replacement for 3M™ Novec™ 7100.

PRODUCT INFORMATION

TMC-7100 is a clear, colorless, thermally stable dielectric fluid capable of extremely low-temperature operation (-135°C). Its chemical and thermal stability, along with a high boiling point and low surface tension, make it ideal for use in vapor degreasing and many other industrial and specialty solvent applications.

APPLICATIONS

- Electronic Cleaner
- Specialty Solvent
- Heat Transfer Fluid
- Dielectric Test Media
- Lubricant Carrier Solvent
- Spray Contact Cleaner
- CFC, HCFC, HFC, and PFC Replacement
- Spot-Free Water Drying Agent
- Medium-Duty Cleaning Azeotrope — Oils, Greases and Waxes
- Light-Duty Cleaning Particulates, Fluorolubes, Light Oils, Fluoropolymers
- Heavy-Duty Cleaning (Co-Solvent) Heavy Oils, Greases and Fluxes

FEATURES

- 3rd Party Tested — Meets Current PFAS Guidelines
- Zero Ozone Depletion Potential (ODP)
- Low Global Warming Potential (GWP)
- High Boiling Point
- Non-Flammable
- RoHS Compliant

MATERIALS COMPATIBILITY

TMC-7100 fluid is compatible with most metals and hard polymers such as plastics. Soft elastomeric materials should be limited to those that contain the least amount of extractable plasticizer. It may be absorbed into fluorinated elastomers over longer exposures.

Compatible Materials

METALS

Aluminum
Copper²
Carbon Steel
302 Stainless Steel
Brass²
Molybdenum
Tantalum
Tungsten
Cu/Be Alloy C172
Mg Alloy AZ32B

PLASTICS

Acrylic (PMMA)
Polyethylene
Polypropylene
Polycarbonate
Polyester
Epoxy
PET
Phenolic
ABS

ELASTOMERS¹

Butyl Rubber
Natural Rubber
Nitrile Rubber
EPDM

¹As with most fluorinated liquids, TMC-7100 fluid will absorb into fluorinated plastics (e.g., PTFE) and elastomers (e.g., FFKM, FKM types) over longer exposures. Absorption and swelling of silicone rubber are also observed. Not all formulations of these polymers are compatible.

²Some surface oxidation of copper during testing.



PHYSICAL & ENVIRONMENTAL PROPERTIES COMPARISON

PROPERTY	UNITS	3M™ NOVEC™ 7100	TMC-7100
Type	—	Legacy	Replacement
Form	—	Liquid	Liquid
Color	—	Colorless	Colorless
Odor	—	Odorless	Odorless
Boiling Point	°C	61	61
Freeze/Pour Point	°C	-135	-135
Average Molecular Weight	g/mol	250	250
Calculated Critical Temperature	°C	195	195
Vapor Pressure	kPa	26	26
Latent Heat of Vaporization	J/g	112	112
Liquid Density	kg/m ³	1520	1520
Kinematic Viscosity	cSt	0.38	0.38
Absolute Viscosity	cP	0.58	0.58
Specific Heat	J/kg-K	1183	1183
Surface Tension	mN/m	13.6	13.6
Solubility of Water in Solvent	ppmw	95	95
Solubility of Solvent in Water	ppmw	12	12
Dielectric Strength	kV	>40	>40
Dielectric Constant @ 1 kHz	—	7.4	7.4
Volume Resistivity	Ohm-cm	10 ⁸	10 ⁸
Thermal Conductivity	W/m-K	0.069	0.069
Coefficient of Expansion	K ⁻¹	0.0018	0.0018
Ozone Depletion Potential (ODP)	—	0.0	0.0
Global Warming Potential (GWP)	—	300	300
Flash Point	—	None	None

Not for specification purposes. All values @ 25°C unless otherwise specified.

TMC-7100 Continued

VAPOR PRESSURE & DENSITY

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

Vapor Pressure

$$\ln P = 22.415 - 3641.9 [1/(t+273)]$$

P = Vapor Pressure in Pascals

t = Temperature in °C

Density

$$D = 1.5383 - 0.002269t$$

t = Temperature in °C

D = Density in g/ml

PACKAGING

TMC-7100 is available in the following sizes and weights:

- **Jug** — 12 lb / 5.4 kg / 1 gal / 3.6 L
- **Pail** — 44 lb / 20 kg / 3.5 gal / 13.1 L
- **Drum** — 551 lb / 250 kg / 43.4 gal / 164.4 L
- **Sample** — 2.2 lb / 1 kg / 0.2 gal / 0.7 L
- **Tote** — Available Upon Request

SHELF LIFE & STORAGE

Shelf life is 5 years from the date of manufacture when stored in the original packaging materials and stored under normal conditions. TMC will re-certify material every 5 years up to 20 years.

DISPOSAL & RECYCLING

This fluid can be recycled and reused. Help protect the environment and don't pay for expensive disposal services.

TMC Industries can reclaim your used fluorinated fluids, restoring them to like-new condition, and save you up to 50% in replacement fluids while protecting the environment.

TMC Reclaimed Fluids are tested to meet new product specifications. It will be clear and odorless, and a Certificate of Analysis is issued with every order.

TMC Industries offers a **100% satisfaction guarantee** on all our reclaimed fluids. We back this up with a no-questions-asked refund policy. To learn more, [click here](#).

EXTERNAL DOCUMENTS

- [3rd Party Laboratory Testing: Non-Detectable PFAS](#)
- [TMC Used Fluid Reclamation Service Brochure](#)

Safety and Handling: Before using this product, please thoroughly read the current product SDS and label, following all applicable safety precautions described therein (e.g., recommended storage and safe handling, appropriate exposure controls and personal protective equipment (PPE), addressing accidental spills, disposal considerations, etc.).

Safety Data Sheet: Consult Safety Data Sheet before use.

Regulatory: For regulatory information about this product, contact your TMC representative.

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that TMC believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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