

# TMC HFE-347E ENGINEERED FLUID

TMC HFE-347E is a 3M™ Novec™ 7100 equivalent offering similar chemistry and physical properties.

## PRODUCT INFORMATION

TMC HFE-347E is an engineered fluoro-solvent designed as an economical equivalent to Novec™ 7100, Chemours™ Vertrel™, and other hydrofluoroether (HFE) fluids. It is ideal for two-phase immersion cooling and precision cleaning of metals, alloys, composites, and plastics. It is also a quick-drying agent and particle remover.

## APPLICATIONS

- Heat transfer
- Two-phase Immersion cooling fluid
- Heavy-duty cleaning (co-solvent) — heavy oils, greases, fluxes
- Medium-duty cleaning (azeotrope) — oils, greases, waxes
- Light-duty cleaning (neat) — particulates, fluoro-lubricants, light oils, fluoropolymers
- Lubricant carrier — fluorocarbons, hydrocarbons, and silicones
- CFC, HCFC, HFC, and PFC replacement

## FEATURES

- Zero Ozone Depletion Potential (ODP)
- Low Global Warming Potential (GWP)
- US EPA Significant New Alternatives Policy (SNAP) approved
- No Superfund Amendments and Reauthorization Act (SARA) Title III Reporting
- Nonflammable
- Non-corrosive
- Excellent thermal, chemical, and hydrolytic stability
- Reclaimable by TMC Industries Inc.
- Low surface tension penetrates tight spaces for improved cleaning
- Can be used with ultrasonic cleaners.
- VOC Exempt
- Certified to < 2ppm non-volatile residue (NVR)

## MATERIALS COMPATIBILITY

TMC HFE-347E is non-corrosive and non-staining to a wide variety of substrates. It is compatible with most polymers and elastomers typically encountered during cleaning and vapor degreasing:

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



# TMC HFE-347E Continued

## PHYSICAL & ENVIRONMENTAL PROPERTIES COMPARISON

PROPERTY	UNITS	3M™ NOVEC™ 7100	TMC HFE-347E
Type	—	Legacy	Equivalent
Form	—	Liquid	Liquid
Color	—	Colorless	Colorless
Odor	—	Odorless	Odorless
Boiling Point	°C	61	56
Freeze/Pour Point	°C	-135	-91
Average Molecular Weight	g/mol	250	200
Thermal Conductivity	W/m-K	0.069	0.089
Vapor Pressure	kPa	26.9	N/A
Liquid Density	kg/m <sup>3</sup>	1510	1490
Kinematic Viscosity	cSt	0.38	0.44
Specific Heat	J/kg-K	1183	1260
Viscosity (23°C)	—	0.6	0.677
Solubility of Water in Solvent	ppmw	95	N/A
Dielectric Strength	kV	25	N/A
Ozone Depletion Potential (ODP)	—	0.0	0.0
Global Warming Potential (GWP)	—	297	580
Flash Point	—	None	None

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

# TMC HFE-347E Continued

## PACKAGING

TMC HFE-347E is available in the following sizes and weights:

- **1 Gallon Jug** — 12 lb / 5.4 kg
- **5 Gallon Pail** — 50 lb / 22.7 kg
- **55 Gallon Drum** — 550 lb / 250 kg
- **Sample** — 2.2 lb / 1 kg
- **275 Gallon 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

- [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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