



GLOBAL LEADER PROVIDING  
PERFORMANCE FLUIDS & LUBRICANTS

TECHNICAL DATA SHEET

# TMC-3283E ELECTRONIC LIQUID

An equivalent to 3M™ FC-3283, offering similar physical properties and chemistry.

## PRODUCT INFORMATION

TMC-3283E is equivalent to 3M Fluorinert FC-3283, offering similar chemistry and physical properties. TMC-3283E is a clear, colorless, thermally stable, fully fluorinated liquid, ideal for use in many single-phase heat transfer applications in the semiconductor manufacturing industry. This makes it an ideal heat transfer fluid for etchers, ion implanters, testers, and others.

TMC-3283E is primarily a single compound; its composition will not shift or fractionate with time. This keeps fluid loss to a minimum and ensures that heat transfer properties will not change with time.

## APPLICATIONS

- Heat Transfer
- Dielectric Bath
- Electronics
- Semiconductor Manufacturing

## FEATURES

- 3rd-Party Tested, Non-Detectable PFAS under Current Guidelines
- Zero Ozone Depletion Potential (ODP)
- Low Global Warming Potential (GWP)
- Reclaimable by TMC Industries, Inc.

## MATERIALS COMPATIBILITY

TMC-3283E is compatible with most metals, plastics, and elastomers.

## COMPLIANCE

- Listed on U.S. Toxic Substances Control Act (TSCA) Inventory
- Not subject to SARA Title III (EPCRA) reporting regulations



## PHYSICAL & ENVIRONMENTAL PROPERTIES COMPARISON

PROPERTY	UNITS	3M™ FC-3283	TMC-3283	TMC-3283E	FC-3283 RECLAIMED
Type	—	Legacy	Replacement	Equivalent	Reclaimed
Form	—	Liquid	Liquid	Liquid	Liquid
Color	—	Colorless	Colorless	Colorless	Colorless
Odor	—	Odorless	Odorless	Odorless	Odorless
Boiling Point	°C	128	128	128	128
Freeze/Pour Point	°C	-65	-65	-65	-65
Average Molecular Weight	g/mol	521	521	500	521
Vapor Pressure	kPa	1.17	1.17	3.46	1.17
Latent Heat of Vaporization	J/g	78	78	136	78
Liquid Density	kg/m <sup>3</sup>	1820	1820	1830	1820
Kinematic Viscosity	cSt	0.75	0.75	1.9	0.75
Specific Heat	J/kg-K	1100	1100	1431	1100
Surface Tension	dynes/cm	14.6	14.6	12.7	14.6
Solubility of Water in Solvent	ppmw	7	7	20	7
Dielectric Strength	kV	>40	>40	44	>40
Volume Resistivity	Ohm-cm	10 <sup>15</sup>	10 <sup>15</sup>	10 <sup>12</sup>	10 <sup>15</sup>
Ozone Depletion Potential (ODP)	—	0.0	0.0	0.0	0.0
Global Warming Potential (GWP)	—	>5000	>5000	118	>5000
Flash Point	—	None	None	None	None

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

# TMC-3283E Continued

## PACKAGING

TMC-3283E is available in the following sizes and weights:

- **1 Gallon Jug** — 11 lb / 5 kg
- **5 Gallon Pail** — 44 lb / 20 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

- [SGS Laboratory — TMC-3283E — PFAS Content Results — Passing](#)
- [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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