



GLOBAL LEADER PROVIDING
PERFORMANCE FLUIDS & LUBRICANTS

TECHNICAL DATA SHEET

TMC-43E ELECTRONIC LIQUID

TMC-43E is a 3M™ FC-43 equivalent, offering similar chemistry and physical properties. It has been certified by third-party testing to contain no detectable PFAS.

PRODUCT INFORMATION

TMC-43E is a non-conductive, thermally and chemically stable liquid ideal for many single-phase heat transfer fluid applications, especially in the electronics and semiconductor industries for testers, chemical vapor deposition (CVD), and thin film transistor (TFT) manufacturing. This combination of properties makes this product ideal for many electronic applications, including many electronic quality and reliability tests. It is commonly used for burn-in testing, environmental stress screening, and vapor phase soldering.

APPLICATIONS

TMC-43E offers high performance in heat transfer applications in wafer fabrication equipment and for direct contact cooling with military-grade electronics.

- Electronic Testing
- Heat Transfer
- Gross Leak Testing
- Thermal Shock Testing
- Semiconductor Cooling

MATERIALS COMPATIBILITY

Metals & Plastics

PACKAGING

TMC-43E 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



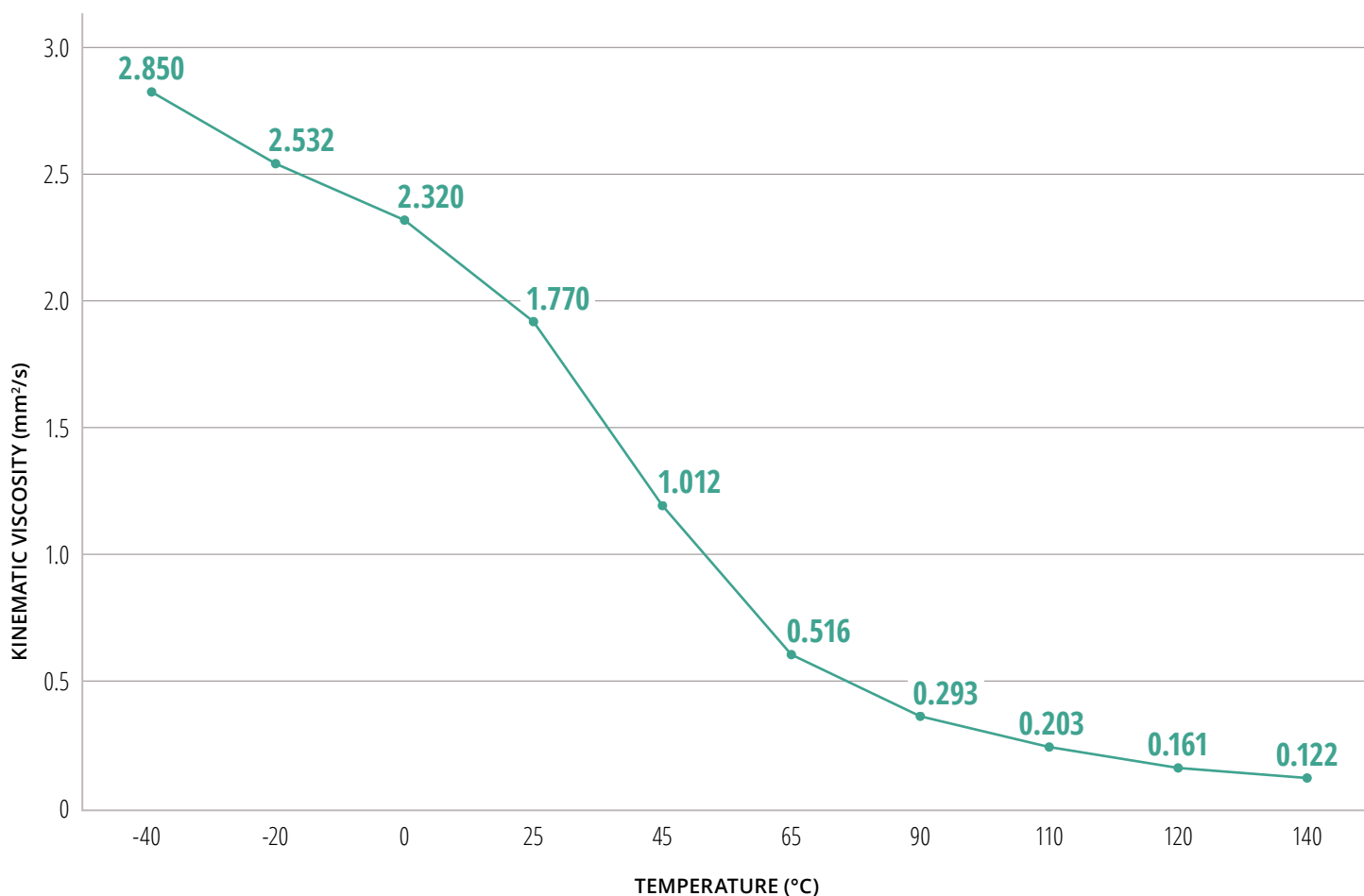
PHYSICAL & ENVIRONMENTAL PROPERTIES COMPARISON

PROPERTY	UNITS	3M™ FC-43	TMC-43E
Type	—	Legacy	Equivalent
Form	—	Liquid	Liquid
Color	—	Colorless	Colorless
Odor	—	Odorless	Odorless
Boiling Point	°C	174	160
Freeze/Pour Point	°C	-50	-65
Average Molecular Weight	g/mol	670	N/A
Vapor Pressure	kPa	0.14	0.28
Latent Heat of Vaporization	J/g	69	N/A
Liquid Density	kg/m ³	1860	1790
Kinematic Viscosity	cSt	2.5	1.012
Specific Heat	J/kg-K	1100	1320
Coefficient of Thermal Expansion	1/°C	0.0012	0.0018
Thermal Conductivity	W/m-K	0.065	0.52
Electrical Resistivity	Ohm-cm	4.0x10 ⁻¹⁵	5.0x10 ⁻⁹
Dielectric Strength	kV	>40	52.57
Ozone Depletion Potential (ODP)	—	0.0	0.0
Global Warming Potential (GWP)	—	>5000	1

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

PERFORMANCE — KINEMATIC VISCOSITY

TEMPERATURE (°C)	KINEMATIC VISCOSITY (mm ² /s)
-40	2.850
-20	2.532
0	2.320
25	1.770
45	1.012
65	0.516
90	0.293
110	0.203
120	0.161
140	0.122



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.

Product Use: Many factors beyond TMC's control and uniquely within user's control can affect the use and performance of a TMC product in a particular application. Given the variety of factors that can affect the use and performance of a TMC product, user is solely responsible for evaluating the TMC product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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