

TMC-3283E Electronic Liquid (CAS# 86508-42-1)

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

PRODUCT DESCRIPTION

TMC-3283E Electronic Liquid 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.

APPLICATIONS

- 1 Heat Transfer
- 2 Dielectric Bath
- 3 Electronics
- 4 Semiconductor Cooling

MATERIALS COMPATIBILITY

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

KEY FEATURES



Performance

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.



Features

- 3rd-Party Tested—No PFAS Detected
- Zero Ozone Depletion Potential (ODP)
- Low Global Warming Potential (GWP)
- Reclaimable by TMC Industries, Inc.
- RoHS-Compliant



Packaging



1-Gallon Jug
(11lb/55kg)



5-Gallon Pail
(44lb/20kg)



55-Gallon Drum
(550lb/250kg)



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PHYSICAL PROPERTIES COMPARISON

PROPERTY	UNITS	3M™ FC-3283	TMC-3283	TMC-3283E	FC-3283 RECLAIMED
Type		Virgin	Replacement	Equivalent	Reclaimed
Form		Liquid	Liquid	Liquid	Liquid
Color		Colorless	Colorless	Colorless	Colorless
Odor		Odorless	Odorless	Odorless	Odorless
Boiling Point	°C	128	128	128	127
Pour Point	°C	-65	-65	-65	-65
Density	kg/m ³	1820	1820	1830	1820
Kinematic Viscosity	cSt	0.75	0.75	1.9	No Data
Vapor Pressure	psi	0.17	0.17	0.14	No Data
Specific Heat	J/kg-K	1100	1100	1431	No Data
Latent Heat of Vaporization	J/g	78	78	136	No Data
Coefficient of Thermal Expansion	1/°C	0.0014	0.0014	No Data	No Data
Thermal Conductivity	W/m-K	0.066	0.066	0.0834	No Data
Dielectric Strength	kV	>40	>40	44	No Data
Electrical Resistivity	Ohm-cm	1.00E+16	1.00E+16	No Data	No Data
Average Molecular Weight	g/mol	521	521	500	No Data
Water Solubility	ppmw	7	7	No Data	No Data
Ozone Depletion Potential (ODP)		0	0	0	No Data
Global Warming Potential (GWP)		>5000	8600	118	No Data

Storage and Shelf Life: The shelf life of TMC-3283E is 60 months 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.

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.).

Recycle and Disposal Options: As part of TMC's commitment to product stewardship and customer service, we offer the Used Fluid Disposal Program for free pickup of used TMC fluids in the U.S. We will ensure that your used TMC fluids will be managed properly and

responsibly. A minimum of 30 gallons of used TMC fluid is required for participation in this free program. Amounts of less than 30 gallons will be at your own expense and will be determined based upon quantity and approved profile of waste. For additional information on the TMC Used Fluid Reclamation Program, please contact sales@tmcindustries.com.

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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