

# CeramCool® Poling Fluids

*Dielectric Heat Transfer Fluids for Polarization of Ferroelectric Materials*

**CeramCool Dielectric Poling Fluids** are the highest performance, biodegradable, non-toxic dielectric fluids available for Poling of piezoelectric ceramic devices. CeramCool Poling Fluids are safe: fire resistant, non-toxic and biodegradable. CeramCool Poling Fluids are the only dielectric fluids made specifically for ceramics poling applications. CeramCool features the broadest material compatibility index, highest dielectric strength, zero environmental impact, and best health and safety ratings available.

## Key Features:

- **High Dielectric Strength:** Withstands >30KV/mm. Ideal for poling piezoelectric ceramic devices.
- **Fire Resistant and Non-Propagating:** Higher flashpoints provide a significant safety margin.
- **Non-Toxic, No Smell, No Vapors**
- **Easy to Clean** with solvent or aqueous cleaners.
- **Biodegradable, Global Warming Potential = 0**
- **No Sulfur. No Phosphates. No PFAS.**
- **Food Grade Certified** in US and Europe
- **Materials Compatibility Warranty**
- **Exceptional Stability in Use:** Withstands higher temperatures for longer service life.
- **User Safety:** Non-allergenic. Can be used without extensive personal protective equipment
- **Leak-Detection UV Dye Available.**



Nonfood Compounds  
FOOD GRADE HT-1

**Composition:** Made from synthetic hydrocarbons at Engineered Fluids' ISO 9001-Certified manufacturing facilities in Tyler, Texas USA from US sourced raw materials. CeramCool Poling Fluids are made under tight manufacturing controls; characteristics are stringently tested and verified before shipment with a certificate of analysis available for all products.

**Applications:** Alignment of piezoelectric ceramic crystalline polarity through application of high voltage DC charge. Heating or cooling ceramic components to optimal time-thermal profile. CeramCool products have extremely low vapor pressure, and can be used in high altitude applications:

Efficient and effective heat removal coupled with exceptional material compatibility makes CeramCool Poling Fluids the ideal choice for green, low impact, high-performance piezoelectric poling applications.

## Recycling, Recovery, Reprocessing and Disposal:

Engineered Fluids offers a full range of laboratory testing, maintenance, recycling, reprocessing and disposal services for all its Dielectric Coolants. This includes a 100% closed-cycle Coolant Collection and Reprocessing Program, eliminating waste and enabling 100% environmentally friendly operations. Contact your Engineered Fluids representative for more information.

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## CHARACTERISTICS OF CERAMCOOL POLING FLUIDS

Product ID	CC-110	CC-120	CC-122	CC-130	CC-140
Typical Application	General purpose Ceramic poling	General purpose Ceramic Poling	Applications requiring lower viscosity	High temperature poling applications	High temperature poling applications
Appearance	Clear				
Odor	None				
Dielectric Strength <sup>1</sup>	>30KV/mm				
Vol. Resistivity (ohm-cm)	>1x10 <sup>14</sup>				
Dielectric Constant	2.080	2.100	2.100	2.100	2.220
Refractive Index n <sub>D</sub> <sup>20</sup>	1.441	1.453	1.422	1.448	1.462
Pour Point (°C)	-57	-62	-66	-49	-52
Flash Point (°C)	<b>193</b>	<b>228</b>	<b>163</b>	<b>268</b>	<b>280</b>
ISO 4406 Particle Count	19/17/14	19/17/14	19/17/14	19/17/14	19/17/14
Total Sulfur (ppm)	0	0	0	0	0
Density, g/cc @ 15.6°C	0.82	0.82	0.79	0.82	0.84
Coefficient of Thermal Expansion, volume/°C	0.00067	0.00065	0.00066	0.00065	0.00063
Kinematic Viscosity, cSt.					
40°C	8.11	16.00	5.02	36.10	67.00
100°C	2.22	3.60	1.70	6.80	9.53
Thermal Conductivity, (W/m/K) @ 40°C	0.1359	0.1459	0.1359	0.1508	0.1584
Specific Heat (kJ/kgK) @ 40°C	2.2121	2.2060	2212.1	2.2030	2.1912
Boiling Point:	None <sup>1</sup>				
Global Warming Potential	0	0	0	0	0
Ultimate Biodegradability <sup>2</sup>	>95%	>70%	>95%	>61%	>50%
Materials Compatibility Warranty	Yes	Yes	Yes	Yes	Yes
Product Warranty <sup>3</sup>	@ Delivery	@ Delivery	@ Delivery	@ Delivery	@ Delivery
Shelf Life (Yrs) <sup>3</sup>	25	25	25	25	25

1. Dielectric Strength is measured using ASTM D1816 method with 2mm electrode gap

2. Biodegradation is stated for a 28-Day Test Period. Biodegradation continues to occur after the initial test period.

3. See product specific warranty statement for terms and conditions. Shelf-Life duration is stated for an original sealed steel container, Shelf-life period is included in the warranty period.

Need more information? Please contact us on [sales@engineeredfluids.com](mailto:sales@engineeredfluids.com) or +1.725.218.1980

Manufactured  in the United States