

Glycol & Heat Transfer Fluids

Specifications, safety data sheets and qualification packets for every glycol and heat-transfer fluid we blend, on one page, for mechanical engineers, commissioning agents and procurement teams.

01 How to read this page

Four rules that keep the numbers below honest.

Specification vs. typical

Values marked **specification** are guaranteed limits tested on every lot and reported on the lot Certificate of Analysis. Values marked **typical** are representative results, not guarantees.

Concentration basis

Concentrations are percent by volume unless the technical data sheet states percent by weight.

Freeze point vs. burst protection

Freeze point is where ice crystals first form. Burst protection is the lower temperature down to which a closed system will not rupture: slush forms, but it does not expand enough to break pipe. Design to the freeze point.

Whose call it is

Final fluid selection, materials compatibility and loop chemistry limits are the responsibility of the system OEM and the engineer of record. Nothing on this page is an OEM approval.

02 Which fluid

The four decisions that pick a product, in the order engineers usually make them.

Ethylene glycol or propylene glycol

EG carries heat better at the same concentration and stays thinner at low temperature. PG is chosen where lower toxicity matters: food and beverage plants, facilities that require it, and many data-center technology loops. Both are supplied inhibited or uninhibited.

Concentration

Pick the lowest concentration that covers the coldest fluid temperature the loop will see, plus margin. Lower concentration means better heat transfer and lower pumping power. 25 to 35% is typical for indoor technology loops; 40 to 50% for outdoor dry coolers and freeze-exposed piping.

Inhibited or uninhibited

Closed loops with mixed metals (copper, aluminum, brass, steel) need an inhibited fluid. Uninhibited glycols are for customers who add their own inhibitor program or run once-through service.

Grade

Technical for HVAC and industrial loops. USP where the fluid may contact food or pharmaceutical process. ACS reagent and semiconductor grades where trace metals and ions are controlled.

03

Product lineup

One row per product. Every value is taken from the product's technical data sheet; documents link to the current controlled copy.

36 PRODUCTS

A • Inhibited OAT coolants for data-center and technology loops

Pre-blended with deionized water and an organic-acid-technology (OAT) corrosion inhibitor package. Used in direct-to-chip secondary loops, rear-door heat exchangers, in-row cooler and

dry-cooler circuits, and chiller loops.

PRODUCT	DOCUMENTS	CONCENTRATION	FREEZE POINT	BURST PROTECTION	INHIBITOR
Inhibited Ethylene Glycol 30/70 with OAT-908 DTC / CDU	TDS · SDS · Packet Product page	29.0 – 31.0 % v/v	4°F (-15.6°C)	—	OAT-908 hybrid
Inhibited Ethylene Glycol 35/65 with OAT-908 DTC / CDU	TDS · SDS · Packet Product page	34.0 – 36.0 % v/v	-3 °F (-19.4 °C) max	—	OAT-908 hybrid
Inhibited Ethylene Glycol 40/60 with OAT-908 DTC / CDU	TDS · SDS · Packet Product page	39.0 – 41.0 % v/v	-13°F (-25.0°C)	—	OAT-908 hybrid
Inhibited Ethylene Glycol 50/50 with OAT-908 DTC / CDU	TDS · SDS · Packet Product page	49.0 – 51.0 % v/v	-34°F (-36.7°C)	—	OAT-908 hybrid
Inhibited Propylene Glycol 25/75 with OAT	TDS · SDS · Packet Product page	25% (v/v) propylene glycol	14 °F (-10.1 °C)	-1 °F (-18.4 °C)	OAT

PRODUCT	DOCUMENTS	CONCENTRATION	FREEZE POINT	BURST PROTECTION	INHIBITOR
Inhibitor DTC / CDU					
Inhibited Propylene Glycol 30/70 with OAT Inhibitor DTC / CDU	TDS · SDS · Packet Product page	29.0 – 31.0 % v/v	–13 °C	≤ –23 °C (–10 °F)	OAT
Inhibited Propylene Glycol 35/65 with OAT Inhibitor DTC / CDU	TDS · SDS · Packet Product page	34.0 – 36.0 % v/v	1 °F (–17.2 °C)	–46 °F (–43.3 °C)	OAT
Inhibited Propylene Glycol 40/60 with OAT Inhibitor DTC / CDU	TDS · SDS · Packet Product page	39.0 – 41.0 % v/v	–21 °C	≤ –38 °C (–37 °F)	OAT
Inhibited Propylene Glycol 50/50 with OAT Inhibitor DTC / CDU	TDS · SDS · Packet Product page	49.0 – 51.0 % v/v	–33 °C	≤ –45 °C (–49 °F)	OAT

B · Inhibited concentrates and premixes

Concentrates for site blending with deionized water, and inhibited premixes for HVAC, hydronic and process loops.

PRODUCT	DOCUMENTS	CONCENTRATION	FREEZE POINT	BURST PROTECTION	INHIBITOR
100% Ethylene Glycol Inhibited	TDS · SDS · Packet Product page	100% v/v	-34 °F (-36.7 °C) max	—	inhibited
100% Propylene Glycol Inhibited	TDS · SDS · Packet Product page	95.6 Min WT%	below -50 °C (-60 °F)	—	inhibited
Propylene Glycol 20% Inhibited	TDS · SDS · Packet Product page	19.0 – 21.0 % v/v	19 °F (-7.2 °C)	11 °F (-11.8 °C)	inhibited
30% Propylene Glycol Inhibited	TDS · SDS · Packet Product page	30% v/v	8 °F (-13.3 °C)	-18 °F (-27.5 °C)	inhibited
40% Propylene Glycol Inhibited	TDS · SDS · Packet Product page	40% v/v	-8 °F (-22.2 °C)	< -60 °F (< -51.1 °C)	inhibited
50% Propylene Glycol Inhibited	TDS · SDS · Packet Product page	50% v/v	-31 °F (-35.0 °C)	< -60 °F (< -51.1 °C)	inhibited
Propylene Glycol 60% Inhibited	TDS · SDS · Packet Product page	59.0 – 61.0 % v/v	< -60 °F (-51.1 °C)	< -60 °F (< -51.1 °C)	inhibited
Ethylene Glycol Inhibited ACS Grade	TDS · SDS · Packet Product page	Min. 99.9%	9 °F	—	inhibited

PRODUCT	DOCUMENTS	CONCENTRATION	FREEZE POINT	BURST PROTECTION	INHIBITOR
Propylene Glycol Inhibited ACS Grade	TDS · SDS · Packet Product page	>= 99.5 %	-76 °F	—	inhibited

C · Uninhibited glycols

For customers who inhibit on site or run once-through service. Technical, USP, ACS reagent and semiconductor grades.

PRODUCT	DOCUMENTS	CONCENTRATION	FREEZE POINT	BURST PROTECTION	INHIBIT
Ethylene Glycol 30/70 Technical Grade	TDS · SDS · Packet Product page	29.0 – 31.0 %	4 °F (-15.6 °C) max	—	none
Ethylene Glycol 50/50 Technical Grade	TDS · SDS · Packet Product page	49.0 – 51.0 %	-34 °F (-36.7 °C) max	—	none
Ethylene Glycol 60/40	TDS · SDS · Packet Product page	59.0 – 61.0 %	-58 °F (-50.0 °C) max	—	none
Ethylene Glycol ACS Grade	TDS · SDS · Packet Product page	Min. 99.9%	9 °F	—	none
Ethylene Glycol Semiconductor Grade	TDS · SDS · Packet Product page	99.5 %wt, minimum	9 °F	—	none
Propylene Glycol Technical Grade	TDS · SDS · Packet Product page	99.50 weight % (minimum)	-76 °F	—	none
Propylene Glycol USP Grade	TDS · SDS · Packet Product page	not less than 99.5 percent	-76 °F	—	none
Propylene Glycol 20% Technical Grade	TDS · SDS · Packet Product page	19.0 – 21.0 % v/v	-7 °C	—	none

PRODUCT	DOCUMENTS	CONCENTRATION	FREEZE POINT	BURST PROTECTION	INHIBIT
Propylene Glycol 20% USP GRADE	TDS · SDS · Packet Product page	19.0 – 21.0 % v/v	-7 °C	—	none
30% Propylene Glycol Technical Grade	TDS · SDS · Packet Product page	29.0 – 31.0 % v/v	-13 °C	—	none
30% Propylene Glycol USP Grade	TDS · SDS · Packet Product page	29.0 – 31.0 % v/v	-13 °C	—	none
Propylene Glycol 40% – Technical Grade	TDS · SDS · Packet Product page	39.0 – 41.0 % v/v	-21 °C	—	none
Propylene Glycol 40% – USP Grade (C3H8O2)	TDS · SDS · Packet Product page	39.0 – 41.0 % v/v	-21 °C	—	none
50% Propylene Glycol Technical Grade	TDS · SDS · Packet Product page	49.0 – 51.0 % v/v	-33 °C	—	none
Propylene Glycol 50% – USP Grade (C3H8O2)	TDS · SDS · Packet Product page	49.0 – 51.0 % v/v	-33 °C	—	none
Propylene Glycol 60% Technical Grade	TDS · SDS · Packet Product page	59.0 – 61.0 % v/v	-51 °C	—	none
Propylene Glycol 60% USP Grade	TDS · SDS · Packet Product page	59.0 – 61.0 % v/v	-51 °C	—	none

D • Blend and make-up water

The deionized water we blend with, and the water specification for customer top-up.

PRODUCT	DOCUMENTS	CONCENTRATION	FREEZE POINT	BURST PROTECTION	INHIBITOR
Deionized Water ACS Reagent Grade	TDS · SDS · Packet Product page	—	0 °C (32 °F)	—	none

04

Specification detail

The specification table from each OAT coolant’s technical data sheet. Temperature-dependent specific heat, thermal conductivity and viscosity tables are available on request.

9 COOLANTS

Inhibited Ethylene Glycol 30/70 with OAT-908



TEST	SPECIFICATION	TYPICAL	METHOD
Assay (ethylene glycol)	29.0 – 31.0 % v/v	30.0 %	—
Reserve alkalinity	0.9 ml min.	4.8	—
ASTM D1384 corrosion weight loss	copper 10 max; solder 30 max; brass 10 max; steel 10 max; cast iron 10 max; aluminum 30 max mg/specimen	Passes test	ASTM D1384
Ethylene Glycol	30 ± 2 % w/w	30 % w/w	—
Nitrite	720 ppm min.	810 ppm	—
Electrical conductivity @ 25 °C	3000 µS/cm maximum	2400	ASTM D1125
Chloride (as Cl)	25 ppm maximum	0.3 ppm	ASTM D3634
Silicates, phosphates, nitrites, borates, amines	None added — < 10 ppm each	0.5 ppm	ICP-OES / ion chromatography
Foaming tendency (volume / break time)	150 mL max / 5 s max	Passes test	ASTM D1881
Acidity as Acetic Acid	0.0015% max	0.0001 %	—
Diethylene Glycol	0.015% max	0.009 %wt	—
Iron (Fe)	0.037 ppm max	0.008 ppm	—
Residue after evaporation	0.0016% max	0.0003%	—
Sulfate (SO4)	2.2 ppm max	0.15 ppm	Turbidimetric, ACS procedure
Heavy metals (as Pb)	0.31 ppm max	0.03 ppm	ICP-OES / ACS heavy metals procedure

Appearance Clear to pinkish liquid (dyed) · pH 9.2 – 10.6 · Specific Gravity 1.033 – 1.043 · Density 1.04 g/mL at 20 °C · Boiling Point ~103 °C · Flash Point Not flammable (aqueous

solution). Full sheet: TDS.

Inhibited Ethylene Glycol 35/65 with OAT-908

—

TEST	SPECIFICATION	TYPICAL	METHOD
Assay (ethylene glycol)	34.0 - 36.0 % v/v	35.0 %	—
Reserve alkalinity	1.05 ml min.	5.6	—
ASTM D1384 corrosion weight loss	copper 10 max; solder 30 max; brass 10 max; steel 10 max; cast iron 10 max; aluminum 30 max mg/specimen	Passes test	ASTM D1384
Nitrite	840 ppm min.	945 ppm	—
Electrical conductivity @ 25 °C	3200 µS/cm maximum	2600	ASTM D1125
Chloride (as Cl)	25 ppm maximum	0.35 ppm	ASTM D3634
Silicates, phosphates, nitrites, borates, amines	None added — < 10 ppm each	0.5 ppm	ICP-OES / ion chromatography
Foaming tendency (volume / break time)	150 mL max / 5 s max	Passes test	ASTM D1881

Appearance Clear to pinkish liquid (dyed) · pH 9-10.5 · Specific Gravity 1.048 (20 °C) · Density 8.80 · Boiling Point ~104 °C · Flash Point Not flammable (aqueous solution). Full sheet: TDS.

Inhibited Ethylene Glycol 40/60 with OAT-908

—

TEST	SPECIFICATION	TYPICAL	METHOD
Assay (ethylene glycol)	39.0 – 41.0 % v/v	40.0 %	—
Reserve alkalinity	1.2 ml min.	6.4	—
ASTM D1384 corrosion weight loss	copper 10 max; solder 30 max; brass 10 max; steel 10 max; cast iron 10 max; aluminum 30 max mg/specimen	Passes test	ASTM D1384
Ethylene Glycol	40 ± 2 % w/w	40 % w/w	—
Nitrite	960 ppm min.	960 ppm	—
Electrical conductivity @ 25 °C	3500 µS/cm maximum	2800	ASTM D1125
Chloride (as Cl)	25 ppm maximum	0.4 ppm	ASTM D3634
Silicates, phosphates, nitrites, borates, amines	None added — < 10 ppm each	0.5 ppm	ICP-OES / ion chromatography
Foaming tendency (volume / break time)	150 mL max / 5 s max	Passes test	ASTM D1881
Acidity as Acetic Acid	0.002% max	0.0001 %	—
Diethylene Glycol	0.02% max	0.012 %wt	—
Iron (Fe)	0.046 ppm max	0.010 ppm	—
Residue after evaporation	0.0021% max	0.0004%	—
Sulfate (SO4)	2.6 ppm max	0.2 ppm	Turbidimetric, ACS procedure
Heavy metals (as Pb)	0.41 ppm max	0.04 ppm	ICP-OES / ACS heavy metals procedure

Appearance Clear to pinkish liquid (dyed) · pH 9.2 – 10.6 · Specific Gravity 1.047 – 1.057 · Density 1.055 g/mL at 20 °C · Boiling Point ~104 °C · Flash Point Not flammable (aqueous solution). Full sheet: TDS.

Inhibited Ethylene Glycol 50/50 with OAT-908



TEST	SPECIFICATION	TYPICAL	METHOD
Assay (ethylene glycol)	49.0 – 51.0 % v/v	50.0 %	—
Reserve alkalinity	1.5 ml min.	8.0	—
ASTM D1384 corrosion weight loss	copper 10 max; solder 30 max; brass 10 max; steel 10 max; cast iron 10 max; aluminum 30 max mg/specimen	Passes test	ASTM D1384
Ethylene Glycol	50 ± 2 % w/w	50 % w/w	—
Freeze point (50 % v/v dilution)	–34 °F max.	–36 °F	—
Nitrite	1200 ppm min.	1350 ppm	—
Electrical conductivity @ 25 °C	4000 µS/cm maximum	3200	ASTM D1125
Chloride (as Cl)	25 ppm maximum	0.5 ppm	ASTM D3634
Silicates, phosphates, nitrites, borates, amines	None added — < 10 ppm each	0.5 ppm	ICP–OES / ion chromatography
Foaming tendency (volume / break time)	150 mL max / 5 s max	Passes test	ASTM D1881
Acidity as Acetic Acid	0.0025% max	0.0002 %	—
Diethylene Glycol	0.025% max	0.015 %wt	—
Iron (Fe)	0.055 ppm max	0.012 ppm	—
Residue after evaporation	0.0026% max	0.0005%	—
Sulfate (SO4)	3 ppm max	0.25 ppm	Turbidimetric, ACS procedure
Heavy metals (as Pb)	0.51 ppm max	0.05 ppm	ICP–OES / ACS heavy metals procedure

Appearance Clear to pinkish liquid (dyed) · pH 9–10.5 · Specific Gravity 1.063 – 1.073 · Density 1.067 g/mL at 20 °C · Boiling Point ~107 °C · Flash Point Not flammable (aqueous solution). Full sheet: TDS.

Inhibited Propylene Glycol 25/75 with OAT Inhibitor

TEST	SPECIFICATION	TYPICAL	METHOD
Reserve alkalinity	≥ 1.5 mL at 25 vol % propylene glycol	1.8	ASTM D1121
Composition	25% (v/v) propylene glycol with corrosion inhibitors	25% (v/v)	—
Corrosion protection (multi-metal), OAT inhibitor package	ASTM D8039	Passes test	ASTM D8040 / ASTM D1881 where glycol content is below the 30% threshold of ASTM D8039
Propylene glycol concentration	24.0 – 26.0 % v/v	25.0 %	—
Chloride (Cl)	≤ 25 ppm	0.20 ppm	ASTM D3634
Silicate, phosphate, nitrite, nitrate, borate and amine content	None detected (< 10 ppm each)	0.3 ppm	ICP–OES / ion chromatography
Foaming tendency	Volume ≤ 150 mL; break time ≤ 5 s	Passes test	ASTM D1881
Burst protection	–1 °F (–18.4 °C) at 25 vol % propylene glycol	Passes test	Published reference

Appearance Clear to pinkish liquid (dyed) · pH 9–10.5 · Specific Gravity 1.02 (20 °C) · Density 1.024 g/cm³ · Boiling Point 214 °F at 25 vol % propylene glycol · Flash Point Not flammable (aqueous solution). Full sheet: TDS.

Inhibited Propylene Glycol 30/70 with OAT Inhibitor

TEST	SPECIFICATION	TYPICAL	METHOD
Propylene glycol concentration	29.0 – 31.0 % v/v	30.0 %	—
Inhibitor loading (OAT package)	1.0–2.5 % OAT inhibitor package	1.75 %	Batch charge record / ion chromatography of carboxylates
Reserve alkalinity	≥ 1.8 mL at 30 vol % propylene glycol	2.2	ASTM D1121
Chloride (Cl)	≤ 25 ppm	0.22 ppm	ASTM D3634
Silicate, phosphate, nitrite, nitrate, borate and amine content	None detected (< 10 ppm each)	0.3 ppm	ICP-OES / ion chromatography
Foaming tendency	Volume ≤ 150 mL; break time ≤ 5 s	Passes test	ASTM D1881
Acidity as Acetic Acid	0.0015 % max	0.0005 wt%	—
Heavy Metals as Pb	1.5 ppm max	0.09 ppm	—
Iron	0.31 ppm max	0.05 ppm	—
Dipropylene glycol (DPG)	0.15 wt% max	0.075 wt%	GC area % (ASTM E202)
ash	0.0015% max	0.0002 wt%	—
Burst protection	≤ -23 °C (-10 °F)	-25 °C (-13 °F)	Burst test
Assay	29.0 – 31.0 %	30.0 %	—

Appearance Clear to pinkish liquid (dyed) · pH 9–10.5 · Specific Gravity 1.020 – 1.030 · Density 1.024 g/mL at 20 °C · Boiling Point 216 °F at 30 vol % propylene glycol · Flash Point Not flammable (aqueous solution). Full sheet: TDS.

Inhibited Propylene Glycol 35/65 with OAT Inhibitor



TEST	SPECIFICATION	TYPICAL	METHOD
Propylene glycol concentration	34.0 – 36.0 % v/v	35.0 %	—
Reserve alkalinity	≥ 2.1 mL at 35 vol % propylene glycol	2.5	ASTM D1121
Chloride (Cl)	≤ 25 ppm	0.24 ppm	ASTM D3634
Silicate, phosphate, nitrite, nitrate, borate and amine content	None detected (< 10 ppm each)	0.3 ppm	ICP-OES / ion chromatography
Foaming tendency	Volume ≤ 150 mL; break time ≤ 5 s	Passes test	ASTM D1881
Acidity as Acetic Acid	0.0018 % max	0.0005 wt%	—
Heavy Metals as Pb	1.8 ppm max	0.10 ppm	—
Iron	0.36 ppm max	0.06 ppm	—
Dipropylene glycol (DPG)	0.17 wt% max	0.088 wt%	GC area % (ASTM E202)
ash	0.0018% max	0.0003 wt%	—
Burst protection	–46 °F (–43.3 °C) at 35 vol % propylene glycol	Passes test	Published reference
Assay	34.0 – 36.0 %	35.0 %	—

Appearance Clear to pinkish liquid (dyed) · pH 9–10.5 · Specific Gravity 1.024 – 1.034 · Density 1.029 g/mL at 20 °C · Boiling Point 217 °F at 35 vol % propylene glycol · Flash Point Not flammable (aqueous solution). Full sheet: TDS.

Inhibited Propylene Glycol 40/60 with OAT Inhibitor

—

TEST	SPECIFICATION	TYPICAL	METHOD
Propylene glycol concentration	39.0 – 41.0 % v/v	40.0 %	—
Inhibitor loading (OAT package)	1.0–2.5 % OAT inhibitor package	1.75 %	Batch charge record / ion chromatography of carboxylates
Reserve alkalinity	≥ 2.4 mL at 40 vol % propylene glycol	2.9	ASTM D1121
Chloride (Cl)	≤ 25 ppm	0.26 ppm	ASTM D3634
Silicate, phosphate, nitrite, nitrate, borate and amine content	None detected (< 10 ppm each)	0.3 ppm	ICP-OES / ion chromatography
Foaming tendency	Volume ≤ 150 mL; break time ≤ 5 s	Passes test	ASTM D1881
Acidity as Acetic Acid	0.002 % max	0.0006 wt%	—
Heavy Metals as Pb	2 ppm max	0.11 ppm	—
Iron	0.41 ppm max	0.06 ppm	—
Dipropylene glycol (DPG)	0.2 wt% max	0.100 wt%	GC area % (ASTM E202)
ash	0.002% max	0.0003 wt%	—
Burst protection	≤ -38 °C (-37 °F)	-40 °C (-40 °F)	Burst test
Assay	39.0 – 41.0 %	40.0 %	—

Appearance Clear to pinkish liquid (dyed) · pH 9–10.5 · Specific Gravity 1.027 – 1.037 · Density 1.033 g/mL at 20 °C · Boiling Point 219 °F at 40 vol % propylene glycol · Flash Point Not flammable (aqueous solution). Full sheet: TDS.

Inhibited Propylene Glycol 50/50 with OAT Inhibitor



TEST	SPECIFICATION	TYPICAL	METHOD
Propylene glycol concentration	49.0 – 51.0 % v/v	50.0 %	—
Inhibitor loading (OAT package)	1.0–2.5 % OAT inhibitor package	1.75 %	Batch charge record / ion chromatography of carboxylates
Reserve alkalinity	≥ 3.0 mL at 50 vol % propylene glycol	3.6	ASTM D1121
Chloride (Cl)	≤ 25 ppm	0.30 ppm	ASTM D3634
Silicate, phosphate, nitrite, nitrate, borate and amine content	None detected (< 10 ppm each)	0.3 ppm	ICP-OES / ion chromatography
Foaming tendency	Volume ≤ 150 mL; break time ≤ 5 s	Passes test	ASTM D1881
Acidity as Acetic Acid	0.0025 % max	0.0008 wt%	—
Heavy Metals as Pb	2.5 ppm max	0.13 ppm	—
Iron	0.51 ppm max	0.07 ppm	—
Dipropylene glycol (DPG)	0.25 wt% max	0.125 wt%	GC area % (ASTM E202)
ash	0.0025% max	0.0004 wt%	—
Burst protection	≤ -45 °C (-49 °F)	-47 °C (-53 °F)	Burst test
Assay	49.0 – 51.0 %	50.0 %	—

Appearance Clear to pinkish liquid (dyed) · pH 9–10.5 · Specific Gravity 1.035 – 1.045 · Density 1.04 g/mL at 20 °C · Boiling Point 222 °F at 50 vol % propylene glycol · Flash Point Not flammable (aqueous solution). Full sheet: TDS.

05

Corrosion protection evidence

What the inhibited products are tested against, and what the standard does and does not mean.

Inhibited products are tested against ASTM D1384 (six-metal glassware coupon test: copper, solder, brass, steel, cast iron, aluminum) and, for aluminum heat-rejecting surfaces, ASTM D4340. Results are reported against the weight-loss limits of ASTM D3306.

About ASTM D3306

ASTM D3306 is an automotive coolant standard. It is used here as the reference set of limits, not as a claim of qualification for any specific data-center system.

The coupon test report (formulation tested, concentration, laboratory, date, numeric weight loss per metal) is available on request. Where a product's exact concentration was not the one tested, we say so, and coupon testing at your concentration can be arranged.

06 Materials compatibility

What inhibited glycol coolants run with, and what to keep out of the loop.

METALS

Copper, brass, stainless 304 and 316, aluminum 3003 and 6061, mild steel, cast iron

PLASTICS

HDPE, polypropylene, PVC, CPVC, PVDF, PTFE

ELASTOMERS

EPDM, FKM and HNBR are the common choices in liquid-cooling equipment; confirm against the OEM's approved-materials list

Avoid

Zinc and galvanized surfaces in prolonged contact (zinc reacts with glycol coolants regardless of inhibitor), magnesium alloys, natural rubber, and mixing inhibitor chemistries: do not top up an OAT-inhibited loop with a silicate- or phosphate-inhibited fluid. Top up leaks with premix at the loop concentration; plain water is only appropriate for confirmed evaporative loss.

A project-specific materials review, listing every wetted material in your loop, is available on request.

07 Water and finished-fluid acceptance

The water we blend with, and how a lot is accepted.

We blend with deionized water meeting the specification below (from the Deionized Water technical data sheet); the same water is recommended for customer make-up. Tap, softened or reverse-osmosis-only water introduces chloride and hardness that defeat the inhibitor and attack aluminum and copper.

PARAMETER	SPECIFICATION
Conductivity at 25 °C	< 1 μ S/cm
Resistivity at 25 °C	> 1 M Ω -cm
Silicate (as SiO ₂)	<= 0.01 ppm
Iron (Fe)	max. 0.01 mg/Kg (ppm)
Heavy metals (as Pb)	<= 0.01 ppm

Finished-fluid acceptance is by lot Certificate of Analysis: glycol concentration by refractive index, specific gravity, pH, reserve alkalinity (ASTM D1121), and freeze point, against the specification column on the product's data sheet.

08 Fill and commissioning

What we supply, and whose procedure governs.

We supply premix at the specified concentration, deionized water for flushing and make-up, and sample containers for first-fill samples. Flush, fill, air removal and filtration follow the cooling-distribution-unit or equipment manufacturer's

procedure. After fill, draw a sample from the loop and compare glycol concentration, pH and reserve alkalinity to the lot COA; keep that result as the loop's baseline.

09 Operation and fluid health

What to test, how often, and when to act.

TEST

Glycol concentration (refractive index), pH, reserve alkalinity (ASTM D1121), conductivity, visual clarity. Metals by ICP when the loop has aluminum cold plates.

FREQUENCY

After fill, at 90 days, then at least annually; more often for loops above 45 °C or with known make-up.

ACT WHEN

Reserve alkalinity or pH falls below the lot COA minimum, concentration drifts from design, or conductivity rises without explanation. Re-inhibit or replace with the same product; never mix chemistries.

We read results and recommend action at no charge for fluid we supplied.

10 Quality and traceability

How a container ties back to its blend, its raw materials and its certificate.

- Every container carries a lot number. The lot ties to the blend record, the raw-material lots (glycol, inhibitor, deionized water) and the lot Certificate of Analysis.
 - A COA is issued per lot and ships with the first container of that lot. A sample COA is available on request.
 - Retained-sample and records-retention statement, and a Letter of Continuing Guaranty, are included in the qualification packet or available on request.
-

11 Controlled documents

What ships with every product, and what we prepare on request.

Per product

Technical Data Sheet (TDS) · Safety Data Sheet (SDS) · Qualification packet (zip): TDS, SDS, latest lot COA, Letter of Continuing Guaranty, SHA-256 manifest. Links are in the lineup tables above.

On request

ASTM D1384 / D4340 coupon report · Project-specific materials compatibility review · Blend water and finished-fluid acceptance specification · Storage and shelf-life statement · Temperature-dependent property tables.

12 Packaging and project logistics

Container sizes and how project fills are staged.

Quarts and gallons for samples and lab work; 5-gallon pails; 55-gallon HDPE drums; 275- and 330-gallon caged IBC totes. Blended and shipped from Taylor, Texas. Central Texas deliveries go on our own trucks; elsewhere by LTL or truckload. For project fills, staged tote deliveries matched to a commissioning schedule, single-lot programs and top-off stock can be arranged on a project basis.