

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.

38

PRODUCTS

11

OAT COOLANTS

COA

PER LOT

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

38 PRODUCTS

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

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	GRADE	PACKAGING
Inhibited Ethylene Glycol 20/80 with OAT-908 DTC / CDU	TDS · SDS · Packet Product page	19.5–20.5% w/w	–8 °C	—	OAT-908 hybrid	Industrial	1 qt – 330 gal tote
Inhibited Ethylene Glycol 30/70 with OAT-908 DTC / CDU	TDS · SDS · Packet Product page	29.0 – 31.0 % w/w	approx. –14 °C (7 °F) typical; –13 °C (8 °F) max	—	OAT-908 hybrid	Industrial	1 qt – 330 gal tote
Inhibited Ethylene Glycol 35/65 with OAT-908 DTC / CDU	TDS · SDS · Packet Product page	34.0 – 36.0 % w/w	approx. –18 °C (0 °F) typical; –17 °C (1 °F) max	—	OAT-908 hybrid	Industrial	1 qt – 330 gal tote
Inhibited Ethylene Glycol 40/60 with OAT-908 DTC / CDU	TDS · SDS · Packet Product page	39.0 – 41.0 % w/w	approx. –22 °C (–8 °F) typical; –21 °C (–6 °F) max	—	OAT-908 hybrid	Industrial	1 qt – 330 gal tote
Inhibited Ethylene Glycol 50/50 with OAT-908 DTC / CDU	TDS · SDS · Packet Product page	49.0 – 51.0 % w/w	approx. –34 °C (–29 °F) typical; –32.5 °C (–27 °F) max	—	OAT-908 hybrid	Industrial	1 qt – 330 gal tote
Inhibited Propylene Glycol 20/80 with OAT Inhibitor DTC / CDU	TDS · SDS · Packet Product page	19.5–20.5% w/w	approx. –7 °C (19 °F)	—	OAT	Industrial	1 qt – 330 gal tote

PRODUCT	DOCUMENTS	CONCENTRATION	FREEZE POINT	BURST PROTECTION	INHIBITOR	GRADE	PACKAGING
Inhibited Propylene Glycol 25/75 with OAT Inhibitor DTC / CDU	TDS · SDS · Packet Product page	24.5–25.5% w/w	approx. -10 °C (15 °F)	—	OAT	Industrial	1 qt – 330 gal tote
Inhibited Propylene Glycol 30/70 with OAT Inhibitor DTC / CDU	TDS · SDS · Packet Product page	29.5–30.5% w/w	approx. -13 °C (9 °F)	—	OAT	Industrial	1 qt – 330 gal tote
Inhibited Propylene Glycol 35/65 with OAT Inhibitor DTC / CDU	TDS · SDS · Packet Product page	34.5–35.5% w/w	approx. -16 °C (2 °F)	—	OAT	Industrial	1 qt – 330 gal tote
Inhibited Propylene Glycol 40/60 with OAT Inhibitor DTC / CDU	TDS · SDS · Packet Product page	39.5–40.5% w/w	approx. -21 °C (-6 °F)	—	OAT	Industrial	1 qt – 330 gal tote
Inhibited Propylene Glycol 50/50 with OAT Inhibitor DTC / CDU	TDS · SDS · Packet Product page	49.5–50.5% w/w	approx. -33 °C (-28 °F)	—	OAT	Industrial	1 qt – 330 gal tote

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	GRADE	PACKAGING
100% Ethylene Glycol Inhibited	TDS · SDS · Packet Product page	100% v/v	-34 °F (-36.7 °C) max	—	inhibited	Industrial	1 qt – 330 gal tote
100% Propylene Glycol Inhibited	TDS · SDS · Packet Product page	95.6 Min WT%	below -50 °C (-60 °F)	—	inhibited	Industrial	1 qt – 330 gal tote
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	Industrial	1 qt – 330 gal tote

PRODUCT	DOCUMENTS	CONCENTRATION	FREEZE POINT	BURST PROTECTION	INHIBITOR	GRADE	PACKAGING
30% Propylene Glycol Inhibited	TDS · SDS · Packet Product page	30% v/v	8 °F (–13.3 °C)	–18 °F (–27.5 °C)	inhibited	Industrial	1 qt – 330 gal tote
40% Propylene Glycol Inhibited	TDS · SDS · Packet Product page	40% v/v	–8 °F (–22.2 °C)	< –60 °F (< –51.1 °C)	inhibited	Industrial	1 qt – 330 gal tote
50% Propylene Glycol Inhibited	TDS · SDS · Packet Product page	50% v/v	–31 °F (–35.0 °C)	< –60 °F (< –51.1 °C)	inhibited	Industrial	1 qt – 330 gal tote
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	Industrial	1 qt – 330 gal tote
Ethylene Glycol Inhibited ACS Grade	TDS · SDS · Packet Product page	Min. 99.9%	9 °F	—	inhibited	ACS reagent	1 qt – 330 gal tote
Propylene Glycol Inhibited ACS Grade	TDS · SDS · Packet Product page	>= 99.5 %	–76 °F	—	inhibited	ACS reagent	1 qt – 330 gal tote

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	INHIBITOR	GRADE	PACKAGING
Ethylene Glycol 30/70 Technical Grade	TDS · SDS · Packet Product page	29.0 – 31.0 %	4 °F (–15.6 °C) max	—	none	Technical	1 qt – 330 gal tote
Ethylene Glycol 50/50 Technical Grade	TDS · SDS · Packet Product page	49.0 – 51.0 %	approx. –37 °C (–35 °F) typical; –36.7 °C (–34 °F) max	—	none	Technical	1 qt – 330 gal tote
Ethylene Glycol 60/40	TDS · SDS · Packet Product page	59.0 – 61.0 %	approx. –50 °C (–58 °F) typical; –48 °C (–55 °F) guaranteed	—	none	Industrial	1 qt – 330 gal tote
Ethylene Glycol ACS Grade	TDS · SDS · Packet Product page	Min. 99.9%	9 °F	—	none	ACS reagent	1 qt – 330 gal tote

PRODUCT	DOCUMENTS	CONCENTRATION	FREEZE POINT	BURST PROTECTION	INHIBITOR	GRADE	PACKAGING
Ethylene Glycol Semiconductor Grade	TDS · SDS · Packet Product page	99.5 %wt, minimum	9 °F	—	none	Semiconductor	1 qt – 330 gal tote
Propylene Glycol Technical Grade	TDS · SDS · Packet Product page	99.50 weight % (minimum)	-76 °F	—	none	Technical	1 qt – 330 gal tote
Propylene Glycol USP Grade	TDS · SDS · Packet Product page	not less than 99.5 percent	-76 °F	—	none	USP	1 qt – 330 gal tote
Propylene Glycol 20% Technical Grade	TDS · SDS · Packet Product page	19.0 – 21.0 % v/v	-7 °C	—	none	Technical	1 qt – 330 gal tote
Propylene Glycol 20% USP GRADE	TDS · SDS · Packet Product page	19.0 – 21.0 % v/v	-7 °C	—	none	USP	1 qt – 330 gal tote
30% Propylene Glycol Technical Grade	TDS · SDS · Packet Product page	29.0 – 31.0 % v/v	-13 °C	—	none	Technical	1 qt – 330 gal tote
30% Propylene Glycol USP Grade	TDS · SDS · Packet Product page	29.0 – 31.0 % v/v	-13 °C	—	none	USP	1 qt – 330 gal tote
Propylene Glycol 40% – Technical Grade	TDS · SDS · Packet Product page	39.0 – 41.0 % v/v	-21 °C	—	none	Technical	1 qt – 330 gal tote
Propylene Glycol 40% – USP Grade (C3H8O2)	TDS · SDS · Packet Product page	39.0 – 41.0 % v/v	-21 °C	—	none	USP	1 qt – 330 gal tote
50% Propylene Glycol Technical Grade	TDS · SDS · Packet Product page	49.0 – 51.0 % v/v	-33 °C	—	none	Technical	1 qt – 330 gal tote
Propylene Glycol 50% – USP Grade (C3H8O2)	TDS · SDS · Packet Product page	49.0 – 51.0 % v/v	-33 °C	—	none	USP	1 qt – 330 gal tote
Propylene Glycol 60% Technical Grade	TDS · SDS · Packet Product page	59.0 – 61.0 % v/v	-51 °C	—	none	Technical	1 qt – 330 gal tote

PRODUCT	DOCUMENTS	CONCENTRATION	FREEZE POINT	BURST PROTECTION	INHIBITOR	GRADE	PACKAGING
Propylene Glycol 60% USP Grade	TDS · SDS · Packet Product page	59.0 – 61.0 % v/v	-51 °C	—	none	USP	1 qt – 330 gal tote

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	GRADE	PACKAGING
Deionized Water ACS Reagent Grade	TDS · SDS · Packet Product page	—	0 °C (32 °F)	—	none	ACS reagent	1 qt – 330 gal tote

04 Specification detail

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

Inhibited Ethylene Glycol 20/80 with OAT-908

Glycol concentration 19.5–20.5% w/w (SDS Section 3). The data sheet for this blend lists properties only; no separate specification table is published.

Appearance Clear, colorless to pale liquid · pH Typically 7.0–9.0 (ASTM D1287); measured value reported on the lot Certificate of Analysis · Specific Gravity 1.026 (20 °C) · Density 1.026 g/mL at 20 °C · Boiling Point ~102 °C · Flash Point Not flammable (aqueous solution). Full sheet: [TDS](#).

Inhibited Ethylene Glycol 30/70 with OAT-908

TEST	SPECIFICATION	TYPICAL	METHOD
Assay (ethylene glycol)	29.0 – 31.0 % w/w	30.0 % w/w	—
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
Freeze point	8.0 °F (-13.3 °C) max	6.7 °F (-14.1 °C)	ASTM D1177
Reserve alkalinity	0.9 ml min.	4.8	—
Nitrite	720 ppm min.	810 ppm	—

TEST	SPECIFICATION	TYPICAL	METHOD
Electrical conductivity @ 25 °C	3000 µS/cm maximum	2400	ASTM D1125
Foaming tendency (volume / break time)	150 mL max / 5 s max	Passes test	ASTM D1881
Sulfate (SO ₄)	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
Identity (IR)	passes test	Passes test	—
Acidity as Acetic Acid	0.0015% max	0.00009 %	—
Chloride (Cl)	0.43 ppm max	0.03 ppm	—
Diethylene Glycol	0.015% max	0.006 %	—
Iron (Fe)	0.037 ppm max	0.006 ppm	—
Residue after evaporation	0.0016% max	0.0003 %	—
Composition	30 % ethylene glycol in deionized water with the OAT-908 inhibitor package, by weight	Conforms	By formulation; confirmed by specific gravity

Appearance Clear, colorless to pale liquid · pH Typically 7.0–9.0 (ASTM D1287); measured value reported on the lot Certificate of Analysis · Specific Gravity 1.035 – 1.045 · Density 1.04 g/mL at 20 °C · Boiling Point ~104 °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 % w/w	35.0 % w/w	—
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
Foaming tendency (volume / break time)	150 mL max / 5 s max	Passes test	ASTM D1881
Acidity as Acetic Acid	0.0018% max	0.0001 %	—
Diethylene Glycol	0.018% max	0.007 %	—
Iron (Fe)	0.041 ppm max	0.007 ppm	—
Residue after evaporation	0.0019% max	0.00035 %	—
Sulfate (SO ₄)	2.4 ppm max	0.17 ppm	Turbidimetric, ACS procedure

TEST	SPECIFICATION	TYPICAL	METHOD
Heavy metals (as Pb)	0.36 ppm max	0.035 ppm	ICP-OES / ACS heavy metals procedure

Appearance Clear, colorless to pale liquid · pH Typically 7.0–9.0 (ASTM D1287); measured value reported on the lot Certificate of Analysis · Specific Gravity 1.047 (20 °C) · Density 8.72 · Boiling Point ~105 °C · Flash Point Not flammable (aqueous solution). Full sheet: [IDS](#).

Inhibited Ethylene Glycol 40/60 with OAT-908

TEST	SPECIFICATION	TYPICAL	METHOD
Assay (ethylene glycol)	39.0 – 41.0 % w/w	40.0 % w/w	—
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
Freeze point	–6.4 °F (–21.3 °C) max	–8.1 °F (–22.3 °C)	ASTM D1177
Reserve alkalinity	1.2 ml min.	6.4	—
Nitrite	960 ppm min.	960 ppm	—
Electrical conductivity @ 25 °C	3500 µS/cm maximum	2800	ASTM D1125
Foaming tendency (volume / break time)	150 mL max / 5 s max	Passes test	ASTM D1881
Sulfate (SO ₄)	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
Identity (IR)	passes test	Passes test	—
Acidity as Acetic Acid	0.002% max	0.00012 %	—
Chloride (Cl)	0.44 ppm max	0.04 ppm	—
Diethylene Glycol	0.02% max	0.008 %	—
Iron (Fe)	0.046 ppm max	0.008 ppm	—
Residue after evaporation	0.0021% max	0.0004 %	—
Composition	40 % ethylene glycol in deionized water with the OAT-908 inhibitor package, by weight	Conforms	By formulation; confirmed by specific gravity

Appearance Clear, colorless to pale liquid · pH Typically 7.0–9.0 (ASTM D1287); measured value reported on the lot Certificate of Analysis · Specific Gravity 1.048 – 1.058 · Density 1.053 g/mL at 20 °C · Boiling Point ~106 °C · Flash Point Not flammable (aqueous solution). Full sheet: [IDS](#).

Inhibited Ethylene Glycol 50/50 with OAT-908

TEST	SPECIFICATION	TYPICAL	METHOD
Assay (ethylene glycol)	49.0 – 51.0 % w/w	50.0 % w/w	—

TEST	SPECIFICATION	TYPICAL	METHOD
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
Freeze point	-26.5 °F (-32.5 °C) max	-28.9 °F (-33.8 °C)	ASTM D1177
Reserve alkalinity	1.5 ml min.	8.0	—
Nitrite	1200 ppm min.	1350 ppm	—
Electrical conductivity @ 25 °C	4000 µS/cm maximum	3200	ASTM D1125
Foaming tendency (volume / break time)	150 mL max / 5 s max	Passes test	ASTM D1881
Sulfate (SO ₄)	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
Identity (IR)	passes test	Passes test	—
Acidity as Acetic Acid	0.0025% max	0.00015 %	—
Chloride (Cl)	0.45 ppm max	0.05 ppm	—
Diethylene Glycol	0.025% max	0.01 %	—
Iron (Fe)	0.055 ppm max	0.01 ppm	—
Residue after evaporation	0.0026% max	0.0005 %	—
Composition	50 % ethylene glycol in deionized water with the OAT-908 inhibitor package, by weight	Conforms	By formulation; confirmed by specific gravity

Appearance Clear, colorless to pale liquid · pH Typically 7.0–9.0 (ASTM D1287); measured value reported on the lot Certificate of Analysis · Specific Gravity 1.060 – 1.070 · Density 1.065 g/mL at 20 °C · Boiling Point ~107 °C · Flash Point Not flammable (aqueous solution). Full sheet: [TDS](#).

Inhibited Propylene Glycol 20/80 with OAT Inhibitor

Glycol concentration 19.5–20.5% w/w (SDS Section 3). The data sheet for this blend lists properties only; no separate specification table is published.

Appearance Clear, colorless to pale yellow liquid (not dyed) · pH Typically 7.0–9.0 (ASTM D1287); measured value reported on the lot Certificate of Analysis · Specific Gravity 1.017–1.025 (20 °C), calculated from formulation · Density approx. 1.02 g/mL (8.5 lb/gal) at 20 °C · Boiling Point approx. 101 °C (214 °F) at 760 mmHg · Flash Point Not flammable (aqueous solution). Full sheet: [TDS](#).

Inhibited Propylene Glycol 25/75 with OAT Inhibitor

TEST	SPECIFICATION	TYPICAL	METHOD
Propylene glycol content	24.5 – 25.5 % w/w	25.0 % w/w	Formulation; verified by refractive index (ASTM D3321) / freeze point (ASTM D1177)
Nitrite (as NO ₂)	600 ppm min. (calculated 1,300–2,700 ppm at the 2.0% dose)	Conforms	Formulation minimum (calculated from inhibitor dose)

TEST	SPECIFICATION	TYPICAL	METHOD
Freeze point	16 °F (–8.9 °C) max	approx. 15 °F (–10 °C)	ASTM D1177
Reserve alkalinity	Reported on lot COA	Reported on lot COA	ASTM D1121
Corrosion inhibitor package	1.8 – 2.2 % w/w (nitrite-containing hybrid organic-acid)	2.0 % w/w	Formulation

Appearance Clear, colorless to pale yellow liquid, free of sediment and suspended matter · pH Reported on lot COA (typically 7.0 – 9.0) · Specific Gravity 1.022–1.030 (20 °C), calculated from formulation · Density approx. 1.02 g/mL (8.5 lb/gal) at 20 °C · Boiling Point approx. 101 °C (214 °F) at 760 mmHg · Flash Point Not flammable (aqueous solution). Full sheet: [TDS](#).

Inhibited Propylene Glycol 30/70 with OAT Inhibitor

TEST	SPECIFICATION	TYPICAL	METHOD
Propylene glycol content	29.5 – 30.5 % w/w	30.0 % w/w	Formulation; verified by refractive index (ASTM D3321) / freeze point (ASTM D1177)
Nitrite (as NO ₂)	720 ppm min. (calculated 1,300–2,700 ppm at the 2.0% dose)	Conforms	Formulation minimum (calculated from inhibitor dose)
Freeze point	10 °F (–12.2 °C) max	approx. 9 °F (–13 °C)	ASTM D1177
Reserve alkalinity	Reported on lot COA	Reported on lot COA	ASTM D1121
Corrosion inhibitor package	1.8 – 2.2 % w/w (nitrite-containing hybrid organic-acid)	2.0 % w/w	Formulation

Appearance Clear, colorless to pale yellow liquid, free of sediment and suspended matter · pH Reported on lot COA (typically 7.0 – 9.0) · Specific Gravity 1.027–1.035 (20 °C), calculated from formulation · Density approx. 1.03 g/mL (8.6 lb/gal) at 20 °C · Boiling Point approx. 102 °C (216 °F) at 760 mmHg · Flash Point Not flammable (aqueous solution). Full sheet: [TDS](#).

Inhibited Propylene Glycol 35/65 with OAT Inhibitor

TEST	SPECIFICATION	TYPICAL	METHOD
Propylene glycol content	34.5 – 35.5 % w/w	35.0 % w/w	Formulation; verified by refractive index (ASTM D3321) / freeze point (ASTM D1177)
Nitrite (as NO ₂)	840 ppm min. (calculated 1,300–2,700 ppm at the 2.0% dose)	Conforms	Formulation minimum (calculated from inhibitor dose)
Freeze point	4 °F (–15.6 °C) max	approx. 2 °F (–16 °C)	ASTM D1177
Reserve alkalinity	Reported on lot COA	Reported on lot COA	ASTM D1121
Corrosion inhibitor package	1.8 – 2.2 % w/w (nitrite-containing hybrid organic-acid)	2.0 % w/w	Formulation

Appearance Clear, colorless to pale yellow liquid, free of sediment and suspended matter · pH Reported on lot COA (typically 7.0 – 9.0) · Specific Gravity 1.031–1.039 (20 °C), calculated from formulation · Density

approx. 1.03 g/mL (8.6 lb/gal) at 20 °C · Boiling Point approx. 103 °C (217 °F) at 760 mmHg · Flash Point Not flammable (aqueous solution). Full sheet: [TDS](#).

Inhibited Propylene Glycol 40/60 with OAT Inhibitor

TEST	SPECIFICATION	TYPICAL	METHOD
Propylene glycol content	39.5 – 40.5 % w/w	40.0 % w/w	Formulation; verified by refractive index (ASTM D3321) / freeze point (ASTM D1177)
Nitrite (as NO ₂)	960 ppm min. (calculated 1,300–2,700 ppm at the 2.0% dose)	Conforms	Formulation minimum (calculated from inhibitor dose)
Freeze point	–5 °F (–20.6 °C) max	approx. –6 °F (–21 °C)	ASTM D1177
Reserve alkalinity	Reported on lot COA	Reported on lot COA	ASTM D1121
Corrosion inhibitor package	1.8 – 2.2 % w/w (nitrite-containing hybrid organic-acid)	2.0 % w/w	Formulation

Appearance Clear, colorless to pale yellow liquid, free of sediment and suspended matter · pH Reported on lot COA (typically 7.0 – 9.0) · Specific Gravity 1.035–1.043 (20 °C), calculated from formulation · Density approx. 1.04 g/mL (8.7 lb/gal) at 20 °C · Boiling Point approx. 104 °C (219 °F) at 760 mmHg · Flash Point Not flammable (aqueous solution). Full sheet: [TDS](#).

Inhibited Propylene Glycol 50/50 with OAT Inhibitor

TEST	SPECIFICATION	TYPICAL	METHOD
Propylene glycol content	49.5 – 50.5 % w/w	50.0 % w/w	Formulation; verified by refractive index (ASTM D3321) / freeze point (ASTM D1177)
Nitrite (as NO ₂)	1,200 ppm min. (calculated 1,300–2,700 ppm at the 2.0% dose)	Conforms	Formulation minimum (calculated from inhibitor dose)
Freeze point	–27 °F (–32.8 °C) max	approx. –28 °F (–33 °C)	ASTM D1177
Reserve alkalinity	Reported on lot COA	Reported on lot COA	ASTM D1121
Corrosion inhibitor package	1.8 – 2.2 % w/w (nitrite-containing hybrid organic-acid)	2.0 % w/w	Formulation

Appearance Clear, colorless to pale yellow liquid, free of sediment and suspended matter · pH Reported on lot COA (typically 7.0 – 9.0) · Specific Gravity 1.042–1.050 (20 °C), calculated from formulation · Density approx. 1.04 g/mL (8.7 lb/gal) at 20 °C · Boiling Point approx. 106 °C (222 °F) at 760 mmHg · 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.

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 lot-specific COA is available on request at no charge. A sample COA is also 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.

13 AI & data center reading

18 ARTICLES

Engineering articles from our team on coolant chemistry, loop failure modes, testing cadence and the hardware driving liquid cooling.

The Unseen Chemistry of AI: The Definitive Guide to Data Center Coolants & Chemicals

AI GPU Cooling Revolution: Deionized Water, Ethylene Glycol & Propylene Glycol – The Ultimate Liquid

[READ GUIDE →](#)

Cooling Guide

[READ GUIDE →](#)

GPU Thermal Density and Coolant Flow Specs: B200, GB200, and MI300

[READ GUIDE →](#)

ASHRAE TC 9.9 Thermal Guidelines for AI Data Center Cooling

[READ GUIDE →](#)

Direct-to-Chip vs Immersion Cooling: Fluid Types, Chemistry, and Selection Rules

[READ GUIDE →](#)

Post-Novec Immersion Fluid Alternatives in 2026

[READ GUIDE →](#)

OAT vs NOAT vs HOAT Inhibitor Chemistry for Data Center Cooling

[READ GUIDE →](#)

Data Center Glycol Inhibitor Chemistry Guide | OAT vs NOAT vs HOAT

[READ GUIDE →](#)

Inhibited Ethylene Glycol 30/70 with OAT-908: The Data-Center Coolant Buying Guide

[READ GUIDE →](#)

Twelve Ways a Data Center Glycol Loop Goes Wrong (and How to Tell Which One You Have)

[READ GUIDE →](#)

Inhibitor Depletion Lifecycle and the Case for Coolant-as-a-Service

[READ GUIDE →](#)

Reserve Alkalinity Testing Cadence: ASTM D1121 for Data Center Coolant Loops

[READ GUIDE →](#)

Propylene Glycol vs Ethylene Glycol for Hyperscale Data Centers: Toxicity, Liability, and Regulation

[READ GUIDE →](#)

Propylene Glycol + DI Water in Thermal Systems: The Practical Guide

[READ GUIDE →](#)

Advanced Data Center Cooling Chemistry Part 2: When Theory Meets Reality

[READ GUIDE →](#)

Sodium Hypochlorite for Cooling Towers & AI Data Centers: Dosing, Cost & Treatment Guide

[READ GUIDE →](#)

AI Hardware Prep: Low-Residue Solvents for Conformal Coatings & Sensors

[READ GUIDE →](#)

The Chemistry Behind the AI Memory Boom: The Industrial Chemicals That Build Every DRAM, NAND & HBM Chip

[READ GUIDE →](#)

[Data center cooling chemicals overview](#) · [Data center cooling collection](#)

14 Frequently asked

The six questions engineers ask before they ask for a quote.

Propylene glycol or ethylene glycol for a data-center loop?

Ethylene glycol moves heat better at the same concentration and stays thinner when cold. Propylene glycol is chosen where lower toxicity matters, and many operators specify it for technology loops for that reason. Both are supplied inhibited, blended with deionized water, in the same package sizes.

Can I top up the loop with tap water?

No. Chloride and hardness in tap, softened or RO-only water defeat the inhibitor and attack aluminum and copper. Top up leaks with premix at the loop concentration. Use deionized water only for confirmed evaporative loss.

What is reserve alkalinity and why is it on the COA?

Reserve alkalinity (ASTM D1121) is the buffering capacity left in the fluid, measured by titration. It falls as the inhibitor is consumed, before pH moves. It is the earliest warning that a loop needs re-inhibiting, which is why every lot COA reports it and why we recommend testing it after fill, at 90 days and then annually.

How often should the coolant be tested?

After fill (to set the baseline), at 90 days, then at least once a year. Test more often above 45 °C or when the loop takes regular make-up. Check glycol concentration, pH, reserve alkalinity, conductivity and clarity; add metals by ICP when aluminum cold plates are in the loop.

Is inhibited glycol coolant flammable?

No. Pre-blended glycol and water coolants have no flash point and are not classified as flammable. Only the neat 100% concentrates have a flash point, and it is well above 100 °C.

Do you deliver to our site and can deliveries be staged?

Yes. We blend in Taylor, Texas and deliver on our own trucks across Central Texas; elsewhere by LTL or truckload. For project fills we can stage tote deliveries to a commissioning schedule and hold top-off stock on a project basis.

15 Request a technical submittal

Give us the loop, we return the matching product, its documents and pricing. Nothing here asks you to write a paragraph.

Request a submittal for your loop at <https://alliancechemical.com/pages/glycol-heat-transfer-fluid-technical-submittal#submittal-request>, or email andre@alliancechemical.com · 512-365-6838 ext 515.