

Specifications

Product ProTek-PG™ PLUS Concentrated Heat Transfer Fluid

Application Use Pro-Tek PG PLU™ to winterize boilers, cooling towers, fire hydrants and sprinklersystems, hydronic heating and solar systems, ground source heat pumps, refrigeration, snow melt and ice making systems, industrial heat transfer, pipe tracing and coil defrosting, plumbing applications including winterizing RV's, boats, and summer homes.

Purpose ProTek-PG™ PLUS is a concentrated heat transfer fluid containing 95% propylene glycol. It is designed to provide freeze and burst protection, excellent thermal conductance, protection against system corrosion and fouling, and long-term system stability in closed recirculating water loops.

Advantages ProTek-PG™ PLUS is formulated from GRAS virgin propylene glycol, food-grade corrosion inhibitors, and anti-foaming agents. It is safe to use in systems where incidental contact with potable water may occur. It is compatible with the corrosion and scale inhibitors used in closed loops, cooling towers and boilers.

ProTek-PG™ PLUS has an operating range of -70°F to 235°F. ProTek-PG™ PLUS is a concentrated propylene glycol heat transfer fluid. Therefore, it must be mixed with a minimum of 25% water to provide the desired freeze and burst protection.

ProTek-PG™ PLUS is safe for use in PEX tubing.

Nominal System Properties

% Glycol	ProTek-PG™ PLUS Water Mix Ratio	Freeze Point Burst Point	Minimum Flow Point
75	3:1	-60/-100°F	-70°F
60	7:4	-55/-80°F	-50°F
50	1:1	-24/-80°F	-40°F
35	3:5	2/-50°F	-20°F

Properties

Density: 1.045
pH: 9.3-10.3
Specific Heat: 0.84 BTU/lb/hr/°F (70% PG @200°F)
Residual Alkalinity: 10.3-12.0
Thermal Conductivity: 0.168 BTU/(hr•ft²) (°F/ft) (70% @ 200°F)
Viscosity: 600 Centipoise (for 70% solution @ -20°F)

Directions

1. For new or fouled systems, use a cleaner designed to clean and passivate the system such as Triple Treat (SCM-120), or follow the equipment manufacturer's recommendations.
2. After the system is clean and passivated, test all the components, including collectors, heat exchangers, pumps and other equipment to ensure there are no leaks.
3. Add the proper ProTek-PG PLUS and water mixture that will give the desired freeze protection, then circulate the solution through the system for 12-24 hours to ensure thorough mixing.
4. Purge the system of entrained air.
5. Test the heat transfer fluid with Diversitech Test Strips or a Diversitech Glycol Refractometer to verify adequate freeze and burst protection in the system.

For best system protection and heat transfer efficiency, the water used in the glycol/water solution should have a hardness of less than 100ppm. For make-up water exceeding 100ppm hardness, add Pro-Tek Inhibitor (SCM 117-16) to the water at a rate of 1 ounce per 10 gallons of hard water. Filter, decant or allow the white precipitate to settle, then use the clear water as make-up for the desired glycol solution.

Test glycol-based heat transfer solutions with Diversitech Glycol Test Strips (SCM-PG-TEST) and/or a Glycol Refractometer (6-REF401) at least once a year to ensure freeze protection and corrosion inhibition properties are within the desired parameters. If the properties of the coolant solution test outside the established parameters, check for and repair any leaks or points where air may enter the system. Then, add ProTek PG-Plus or ProTek Inhibitor to adjust the system's properties to the give the desired freeze, burst and corrosion protection.

1. Entrained air oxidizes propylene glycol causing a permanent loss in freeze protection. It also lowers the pH of the heat transfer solution in the system, and it contributes to early equipment failure from erosion caused by cavitation.

ASTM D-1384 Corrosion Inhibitor Test Results for a 70% SCM-128 Solution

Metal	1st	2nd	3rd	Average	ASTM Limit*
Copper	1	2	2	2	10
Solder	4	3	7	5	30
Brass	0	-1	0	0	10
Steel	1	1	1	1	10
Iron	2	1	2	2	10
Aluminum	5	10	5	5	30

* Limits published in ASTM D3306 Standard Specification for Glycol Base Engine Coolant for Automobile and Light-Duty Service. These performance limits are also required for heavy-duty coolants and recycled coolants (ASTM D6471 or D6472). D1384 is only a test method.

A negative number indicates a net weight gain after correcting for the cleaning blank. (Refer to the published method for information on the calculations.)



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Determining System Capacity

Type "L" Copper Tubing		Standard Steel Pipe	
Tubing Size (inches)	Gallons per 100 feet of tubing	Pipe Size (inches)	Gallons per 100 feet of pipe
3/8	.75	3/8	1
1/2	1.21	1/2	1.6
5/8	1.81	3/4	2.8
3/4	2.51	1	4.5
1	4.28	1-1/4	6.3
1-1/4	6.52	1-1/2	10.2
1-1/2	9.25	2	17
2	16.06	2-1/2	27.5

Caution

- Solutions of this product are not recommended for use above 165°F in systems with aluminum heat exchangers.
- Mix with a minimum of 25% water when using with PVC or CPVC pipe or fittings.
- Avoid use with galvanized metals
- Do not use in internal combustion engines

Safety Data

Consult the Material Safety Data Sheet before using this product. Use according to label directions. Eye protection is recommended when using this or any industrial chemical product. Wash hands after using this product.

Caution: May cause temporary eye irritation. Avoid breathing spray mists. Do not take internally. **Keep out of reach of children.**
First Aid: In case of skin or eye contact, flush the affected area with water immediately for 15 minutes. If eye irritation persists, get medical attention. For ingestion, immediately drink 3-4 glasses of milk or water and call the nearest poison control center. For inhalation, remove the individual to fresh air. If respiratory distress persists, get medical attention.

Additional ProTek Information

- Available in 1, 5, 30, 55, 275 and 5,000 gallon quantities
- Test Kits and Accessories
- Test Strips SCM-PG-TEST
- Refractometer 6-REF401
- ProTek Inhibitor SCM-117-16

Package Metrics

Producer of Goods Specialty Chemical

Domestic/Foreign Commodity Domestic

SKU Specific Package Metrics

Catalog No.	Description	Size	UPC	Quantity per Pallet
SCM-128-01	Heat	1 Gallon Jug	095247091621	144
SCM-128-05	Transfer	5 Gallon Pail	095247091638	36
SCM-128-55	Fluid	55 Gallon Drum	095247091645	4

