

January 2011

## Products

ProTek-50™, ProTek-100™, ProTek-Plus™, ProTek PG-AL™, ProTek-BG™

## Application

ProTek products are inhibited propylene glycol based industrial heat transfer fluids and antifreezes that contain specially formulated inhibitor packages. ProTek products are designed to provide freeze and burst protection, excellent thermal conductance, protection against corrosion and fouling and long term stability in closed recirculating water loops. ProTek products provides burst protection to -100°F. Freeze points and burst points are controlled by the propylene glycol to water ratio.

## Features

- Operating range of -50 F to 220 F
- Burst protection to -100 F
- Freeze and burst points are controlled by glycol/water ratio
- Includes inhibitors

## Benefits

- Easy to mix and adjust freeze/burst temperature as required
- Inhibitors are included, no need to add
- Available in 1 gallon, 5 gallon and 55 gallon sizes for any size application

## Directions

For new or fouled systems, use a cleaner designed to clean and passivate the system such as Triple Treat, or follow the equipment manufacturer's recommendations. After the system is clean and passivated, add the ProTek product at a rate that will give the desired freeze protection and circulate the solution through the system to ensure thorough mixing.



PRO TEK PG Freeze/Burst Protection Mixing Ratio Data (°F)\*

Catalog #	% Propylene Glycol Content										
	10	20	30	35	40	45	50	60	70	80	90
	Mix Ratio-Parts Pro-Tek/Parts Water										
ProTek-50	2:5	5:4	4:1	1:0	1:0*	N/A	N/A	N/A	N/A	N/A	N/A
ProTek-PLUS**	1:9	1:4	1:2	3:5	3:4	1:1	11:10	7:4	3:1	4:1	1:0
ProTek-100	1:6	2:5	2:3	1:1	4:3	13:7	5:2	10:1	1:0	N/A	N/A
ProTek BG	1:6	2:5	2:3	1:1	4:3	13:7	5:2	10:1	1:0	N/A	N/A
ProTek PG-AL	1:6	2:5	2:3	1:1	4:3	13:7	5:2	10:1	1:0	N/A	N/A
Freeze Point °F	26°F	18°F	7°F	2°F	-8°F	-18°F	-29°F	-55°F	-60°F	N/A	N/A
Burst Point °F	N/A	10°F	-20°F	-50°F	-60°F	-80°F	-80°F	-80°F	-100°F	N/A	N/A
Min. Flow Point °F	N/A	N/A	-15°F	-20°F	-35°F	-35°F	-50°F	-50°F	-70°F	N/A	N/A

PRO TEK PG Freeze/Burst Protection Mixing Ratio Data (°C)\*

Catalog #	% Propylene Glycol Content										
	10	20	30	35	40	45	50	60	70	80	90
	Mix Ratio-Parts Pro-Tek/Parts Water										
ProTek-50	2:5	5:4	4:1	1:0	1:0*	N/A	N/A	N/A	N/A	N/A	N/A
ProTek-PLUS**	1:9	1:4	1:2	3:5	3:4	1:1	11:10	7:4	3:1	4:1	1:0
ProTek-100	1:6	2:5	2:3	1:1	4:3	13:7	5:2	10:1	1:0	N/A	N/A
ProTek BG	1:6	2:5	2:3	1:1	4:3	13:7	5:2	10:1	1:0	N/A	N/A
ProTek PG-AL	1:6	2:5	2:3	1:1	4:3	13:7	5:2	10:1	1:0	N/A	N/A
Freeze Point °C	-3°C	-8°C	-14°C	-17°C	-22°C	-27°C	-34°C	-48°C	-51°C	N/A	N/A
Burst Point °C	N/A	-12	-29	-46	-51	-62	-62	-62	-62	N/A	N/A
Min. Flow Point °F	N/A	N/A	-26°C	-29°C	-37°C	-37°C	-46°C	-46°C	-57°C	N/A	N/A

\*This data represents typical properties. It is provided for guidance only. Heat transfer solutions should always be tested to ensure that the system has the required freeze and burst protection.

\*\*ProTek-PLUS must be mixed with water in order to provide the desired freeze and burst protection

**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•ft<sup>2</sup>) (°F/ft) (70% @ 200°F)  
 Viscosity: 600 Centipoise (for 70% solution @ -20°F)

**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

**Corrosion Inhibitor Results**

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

\*ASTM D 1384