



Technical Data Sheet

StaFrost™

StaFrost™ is CFR's chemically engineered Industrial heat transfer fluid; specifically formulated for a variety of heating and cooling applications. An exclusive inhibitor package blend is utilized in a Propylene Glycol Base. The **lower toxicity levels** of the PG make it a suitable fluid; wherein possible contact is likely with water sources, animal life or a higher impact on the environment.

Corrosion Protection

The chemistry employed will effectively protect your industrial equipment whether constructed of single or mixed alloys. The industrial corrosion control inhibitors included have been specially formulated to extend the service life of the coolant. Therefore, you will receive a higher level of reserve alkalinity, superior performance, and less maintenance requirements through re-inhibiting.

Complete corrosion protection is metals including carbon steel, brass, copper, stainless steel, cast iron, and many other alloys by creating a passive layer on the surface that contacts the PG and prevents corrosion from forming.

Typical Applications can include:

Heating, Ventilating and Air Conditioning (HVAC)

- Refrigeration
- Thermal storage
- Water chiller systems
- Ice rinks
- Process heating and cooling
- Waste heat recovery
- Solar and radiant heating systems
- Ground loop heating system

Oil and Gas

- Natural gas well-head and pipeline heaters
- Liquid-cooled industrial engines
- Crude oil/battery Lineheaters

Recommended Temperature Range:

-45°C to 120°C (-49°F to 250°F)

Thermal Degradation

Glycol degradation takes place when the glycol is exposed to high temperatures, in the presence of oxygen or oxidizing agents. This degradation results in the formation of organic acids, specifically, glycolic, formic and acetic acids.

As degradation progresses and the pH of the fluid decreases, the system ultimately becomes acidic and accelerates the corrosion of many metals.

Specifying the right product for the right application...

Choosing the correct corrosion inhibitor package that is precisely aimed at the application, is so important to ensure reliable-safe operation of the equipment. Alternative or inferior inhibitor packages that may be available, will NOT provide the adequate, long-term corrosion protection required for heavy-duty gas transmission engines.

These attributes improve your bottom-line cost.



Specifications

All **StaFrost™** inhibitors have successfully completed the 336-hour ASTM D-1384 corrosion test.

- **StaFrost™ (Propylene Glycol Base) provide Multi metal protection and either meet or exceed the ASTM D-1384 corrosion for Industrial Heat Transfers Fluids (190 degrees Fahrenheit for 336 hours).**

StaFrost™ 50/50

Typical Heat Transfer Fluid Properties

| | |
|--|---------------|
| Glycol Conc. % Volume | 50 |
| Freeze Protection | -30°F (-34°C) |
| pH | 8.5 to 9.5 |
| Reserve Alkalinity (ability to withstand effects of degradation and turn acidic) | >12.0 mL |
| Specific Gravity, KG/L | 1.060 |
| Vapor Pressure @150F | 407.6 kPa |
| Spec Heat, kJ/kgK @150F | 3.706 |
| Viscosity, cP@150F | 1.53 |
| Color | Clear |

Product Availability

StaFrost™ can be purchased in its concentrated form or pre-blended with de-ionized water to meet your specification for boiling, freeze and/or burst protection.

CFR Chemicals distributes its products from various locations across Alberta, Saskatchewan & BC. Products can be shipped anywhere where in the world. To inquire about shipping options, please contact your local CFR area representative.

Or visit us on the web: www.cfrchemicals.com

Fluid Maintenance

The **CFR StaFrost™ Quality Assurance Program** provides glycol sample analysis and recommendations at no charge to ensure optimal performance.

Glycol sample kits, with bottles and labels are provided to our customers. Upon arrival, our Heat Transfer Laboratory completes a sequence of tests to assess the fluid's present condition. A CFR glycol technical specialist will review each analysis report, in-person, and make the appropriate recommendations for maintaining the integrity of the fluid.