

# ***Glycol Bacterial Contamination***

When glycol enters the system, the strains of bacteria, which use glycol as a food source, leave their spore form to become live bacterial cells. These strains of bacteria are generally facultative anaerobes. This means they can live with or without oxygen present. This bacterium feeds on the glycol and breaks it down by way of the Krebs Cycle as a normal course of digestion.

The waste products of bacteria are acidic. These are butyric acid, formaldehyde, and acid aldehydes. These acidic products rapidly reduce the pH of the glycol below the minimum necessary to impede corrosion.

Once the pH is reduced, it begins to solubilize old iron corrosion products and along with this, there become more bacterial spores. Ferrous iron levels increase dramatically; bacterial counts soar; turbidity increases; and now the acidic glycol eats its way thru the vessel.

Ferrous iron deposits onto the clean steel making the entire system fouled with iron deposits, impeding the flow. The system is then subjected to corrosion conditions under the iron deposits reducing the life of the piping by decades.

The inhibitor package that is used in FireFighter PG38 Fluid works as a buffer to protect against the acidic buildup in these systems.

When checking the fluid for propylene glycol content it, it should also be checked for the inhibitor content found in FireFighter PG38 and make corrections if needed.

## ***FireFighter<sup>®</sup> PG38***

FireFighter PG38 Freeze Protection Fluid is a propylene glycol-based antifreeze which satisfies the recommendations of NFPA 13, 13D and 13R. FireFighter PG38 is non-toxic, non-corrosive, and compatible with all approved types of copper, steel and polybutylene pipe.  
**DO NOT USE IN CPVC SYSTEMS OR GALVANIZED.**

