



# WYCO Glycol Reclamation Service

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## Information Sheet



# How to Care for Glycol

Operating and corrosion problems usually occur when the circulating glycol gets dirty. Therefore, to obtain a long, trouble free life with the glycol, it is necessary to recognize these problems and know how to prevent them.

Some of the major problems are:

- Oxidation
- pH Control
- Hydrocarbons
- Foaming
- Thermal Decomposition
- Salt Contamination
- Sludge

**OXIDATION:** Oxygen enters the system with the incoming gas, through unblanketed storage tanks and sumps or through the pump packing glands. Glycol will oxidize readily in the presence of oxygen and form corrosive acids.

**THERMAL DECOMPOSITION:** Excessive heat, from one of the following conditions, will decompose glycol and form corrosive products.

- High reboiler temperature above the glycol decomposition level
- High heat flux rate
- Localized overheating caused by deposits of salt or tarry products on the reboiler fire tubes or by poor flame direction on the fire tubes.

**pH CONTROL:** pH is the measure of the acidity or alkalinity of a fluid using a scale of 0 to 14. pH values of 0 to 7 indicate the fluid is acidic or corrosive. pH values from 7 to 14 indicate the fluid is alkaline. New glycol has approximately a neutral pH of 7. Existing glycol pH should be maintained between 7.0 and 7.5 by use of alkaline neutralizers.

**SALT CONTAMINATION:** Salt deposits accelerate equipment corrosion, reduces heat transfer in the reboiler and alters specific gravity reading when a hydrometer is used to determine glycol-water concentrations.

**HYDROCARBONS:** Liquid hydrocarbons, a result of carryover with the incoming gas or condensation in the absorber, increases glycol foaming, degradation and losses. Hydrocarbons can only be removed by a glycol-gas separator or activated carbon beds.

**SLUDGE:** An accumulation of solid particles and tarry hydrocarbons forming a black, sticky and abrasive gum very often forms in the glycol. Sludge is suspended in the glycol and over a period of time becomes large enough to settle out. It usually occurs when the glycol pH is low and becomes very hard and brittle when deposited on the absorber trays and throughout the circulating system.



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**FOAMING:** Foaming can increase glycol losses and reduce the plant capacity. Foaming causes poor liquid to vapor contact resulting in a decrease in drying efficiency. Foaming is caused by hydrocarbon liquids, field corrosion inhibitors, salt and suspended solids. Excessive turbulence and high liquid to vapor contact velocities will cause the glycol to foam. **The use of defoamers does not solve the problem.** The best cure for foaming problems is proper care of the glycol through good filtration and maintenance practices.

### HOW TO IMPROVE GLYCOL FILTRATION

The most important measure in the proper care of glycol is proper filtration. Proper filtration provides extended life to pumps and prevents an accumulation of solids in the absorber and regeneration equipment thereby significantly reducing operating and maintenance costs.

For best results, filters should be placed in the rich glycol line. Filters can also be placed in the lean glycol line to increase the filtration of the glycol. Filters should be able to remove all solids over 25 microns and operate up to differentials of 20 to 25 psig without loss of seal or channeling.

To determine the proper use of filter elements, cut them to the core and inspect them. If they are dirty throughout, the proper filter is being used. If the element is clean on the inside, an element of different micron size may be needed.

WYCO recommends and can provide resin bond, 25 micron filters. Our experience has proven this type of filter provides consistent filtration of the glycol throughout the filter without the possibility of channeling due to weaknesses caused either by the material of the filter or the manufacturing process. Units using this filter have shown a marked increase in pump and equipment life.

### GLYCOL RECLAMATION SERVICE

WYCO provides an “on site” glycol reclamation service to assist you in properly caring for glycol. Our mobile **Carbon Filtration Unit (CFU)** is the result of 5 years of R & D in determining the best carbon required to properly reclaim or clean glycol in operating units and successful field testing.

Glycol, in addition to being a hygroscopic liquid, able to absorb water, is also used in the production of cleaning agents due to its solvent properties. Properly maintaining the quality of the glycol results in a cleaner and efficient operational unit.

In addition to day-to-day proper filtration, WYCO recommends regular use of our service (twice a year) to ensure the quality of the glycol is maintained. Our service costs a fraction of what it costs to shut the unit down, dismantle it, clean it, reassemble it and replace the glycol. We clean the glycol while the dehydrator is in operation thereby allowing sales gas to continue to be produced. Call us (Wyoming – 307-840-1694, Colorado – 719-740-0882) to set up a regular schedule for cleaning your glycol.