Fact Sheet

GE Infrastructure
Water & Process Technologies

# CorTrol™ IS3070 Oxygen Scavenger

- Controls preboiler and boiler oxygen corrosion
- Minimizes handling and mixing
- Reacts rapidly
- Approved for use in Agriculture Canada-regulated plants.
- Decharacterized for use in abattoirs.

## DESCRIPTION AND USE

CorTrol™ IS3070 is a chemically stable, liquid refined grade of sodium sulfite, specially catalyzed to provide almost instantaneous oxygen removal when applied to water systems. This product is designed to control oxygen corrosion in boiler feedwater, as well as in hot and cold water systems.

## TYPICAL APPLICATIONS

Even with good deaerating heater operations, sufficient dissolved oxygen can remain in the feedwater to damage the preboiler system. Oxygen in water produces pitting which is particularly severe because of its localized nature.

Economizers and feedwater preheaters are particularly susceptible to oxygen attack.

In boilers operating below 1000 psig (70.3 kg/cm$^2$), sodium sulfite is the most commonly used agent for chemical deaeration because of low cost, ease of handling, and nonscaling characteristics. Efficient heavy-metal catalysis of sodium sulfite causes the reaction with oxygen to be greatly accelerated (as shown in Figure 1).

The benefit of the faster reaction rate is obtained at all commonly encountered feedwater and boiler water pH levels (as illustrated by Figure 2).

CorTrol IS3070 has been decharacterized and is approved by Agriculture Canada for use in abattoirs.

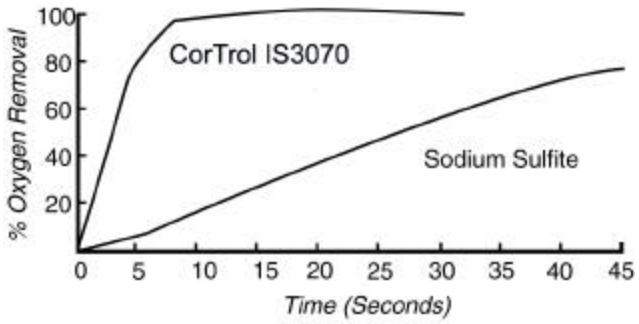


**Figure 1: Comparison of CorTrol IS3070 and sodium sulfite reactions with dissolved oxygen.**

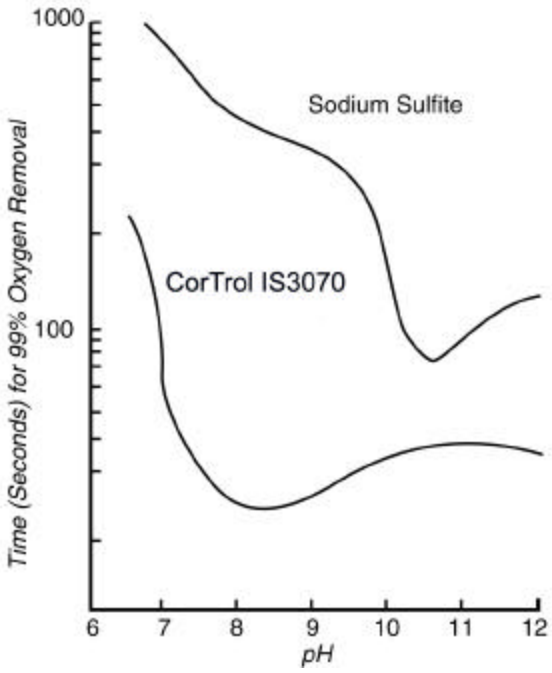


**Figure 2: Comparison of CorTrol IS3070 and sodium sulfite oxygen reaction rates as a function of pH.**


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CorTrol IS3070 can be used as a dechlorination agent to reduce the oxidant level ahead of a resin bed. If the chlorine level is not decreased, destruction of the resin bead may occur. The feedrate of CorTrol IS3070 is 6 ppm (mg/L) for each ppm (mg/L)of chlorine.

## TREATMENT AND FEEDING REQUIREMENTS

**Feed Point -** Preferably fed to deaerator or storage section; can be fed to feedwater line.

**Feedrate -** Control is based on boiler water or boiler feedwater residual test. Feed continuously.

**Dilution -** Use condensate, softened makeup water, or good quality feedwater in a covered day tank at a minimum rate of 7 parts of water per part of product. Mild agitation should be provided during dilution only. CorTrol IS3070 should be fed separately from other chemicals.

**Equipment -** Feed through a type 304 or 316 stainless steel (s.s.) nozzle directly to the storage section of the deaerator. Liquid exposed pump parts should also be Type 304 or 316 s.s. Valves may be 304 or 316 s.s., Carpenter 20, PVC, or Penton-lined. Chemical feed-lines should be 304 or 316 s.s., fiberglass, polypropylene, PVC, or epoxy-lined. Storage tanks should be fiberglass or polyolefin.

## GENERAL PROPERTIES

Physical properties of CorTrol IS3070 are shown on the Material Safety Data Sheet, a copy of which is available on request.

## PACKAGING INFORMATION

CorTrol IS3070 is a liquid blend, available in a wide variety of containers and delivery methods. Contact your GE Betz representative for details.

## SAFETY PRECAUTIONS

A Material Safety Data Sheet containing detailed information about this product is available upon request.


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