

## TECHNICAL INSTRUCTION DOCUMENT

### Sentinel Product Dosing Information

#### X100 - Inhibitor

**APPLICATION:** To inhibit corrosion, scale, boiler noise and hydrogen gassing, add Sentinel X100. For best results, systems should be cleaned and flushed using a suitable Sentinel cleaning product – see the AERCO website for guidance ([www.aerco.com](http://www.aerco.com)). If the system is already noisy due to deposits in the heat exchanger, Sentinel X200 should be added together with Sentinel X100. Sentinel X100 is suitable for use with all commonly encountered metals and alloys, including aluminum.

**DOSE RATE:** Sentinel X100 should be dosed at 1% of system volume, i.e., 1 Quart per 25 Gallons of system water. For larger systems, additional X100 will be required. Overdosing does not present a problem. Please note: Where a thermal storage appliance is fitted, allowance must be made for the increased volume of primary water. The concentration may be checked with a Sentinel Test Kit or a conductivity meter.

**DOSING INSTRUCTIONS:** Open vented Systems: Dose via the expansion header tank, via a by-pass feeder or use a dosing bottle. Sealed Systems: If the system is empty, add to any convenient point before filling. If full, use a dosing bottle to inject via the filling loop or other access point.

**LEAVE IN SYSTEM DO NOT ADD TO PRIMATIC SYSTEMS**

#### X200 – Noise Reducer

**APPLICATION:** Where a boiler is kettling add Sentinel X200 and leave in system. The time taken for the noise to reduce/be eliminated will depend on the nature of the problem. Several weeks under normal operating conditions may be needed. To inhibit corrosion, scale and hydrogen gassing, add together with Sentinel X100 Inhibitor or Sentinel X500 Inhibited Antifreeze. Sentinel X200 is suitable for use with all commonly encountered metals and alloys, including aluminum. Please note: Boiler noise can also be caused by sludge (eg iron oxide corrosion debris), in which case, the system should be cleaned and flushed using a suitable Sentinel cleaning product – see the AERCO website for guidance ([www.aerco.com](http://www.aerco.com)) Many noise problems are caused by system design or mechanical faults. It is important to check for these before seeking a chemical solution.

**DOSE RATE:** Sentinel X200 should be dosed at 1% of system volume, i.e., 1 Quart per 25 Gallons of system water. For larger systems, additional X200 will be required. Higher doses do not present a problem and are often beneficial. Please note: Where a thermal storage appliance is fitted, allowance must be made for the increased volume of primary water

**DOSING INSTRUCTIONS:** Open vented systems: Dose via F&E cistern (sufficient draining from a low point is required to ensure that all of the product enters the circulating part of the system), or use a dosing bottle. Sealed systems: If the system is empty, add to any convenient point before filling. If full, use a dosing bottle to inject via the filling loop or other access point.

**LEAVE IN SYSTEM DO NOT ADD TO PRIMATIC SYSTEMS**

## X300– System Cleaner

**APPLICATION:** To clean a new system, or a system up to six months old, Sentinel X300 should be circulated with all valves open for a minimum period of one hour. Warming the water will aid the process. No neutralisation procedure is required. After cleaning, the system should be drained and then thoroughly flushed through ALL drain points. Refill and treat with Sentinel X100 Inhibitor or Sentinel X500 Inhibited Antifreeze. Sentinel X300 is suitable for use with all commonly encountered metals and alloys, including aluminum.

**DOSE RATE:** Sentinel X300 should be dosed at 1% of system volume, i.e., 1 Quart per 25 Gallons of system water. For larger systems, additional X300 will be required. Overdosing does not present a problem. Please note: Where a thermal storage appliance is fitted, allowance must be made for the increased volume of primary water.

**DOSING INSTRUCTIONS:** Open vented systems: Dose via F&E cistern (sufficient draining from a low point is required to ensure that all of the product enters the circulating part of the system), or use a dosing bottle. Sealed systems: If the system is empty, add to any convenient point before filling. If full, use a dosing bottle to inject via the filling loop or other access point.

## X400 – System Restorer

**APPLICATION:** To clean an older system Sentinel X400 should be circulated, preferably at normal operating temperature, with all valves open for a minimum period of two hours or until satisfactory performance is restored. Where systems are badly fouled, a longer period of circulation (up to four weeks) is recommended. Alternatively, more rapid and effective cleaning will result if Sentinel X400 is used in conjunction with a power flushing device. No neutralisation procedure is required. After cleaning, the system should be drained and then thoroughly flushed through ALL drain points. Refill and treat with Sentinel X100 Inhibitor or Sentinel X500 Inhibited Antifreeze. Sentinel X400 is ideal for use where a new boiler or pump is to be fitted to an existing system or where radiators have cold areas due to sludge build up. It is suitable for use with all commonly encountered metals and alloys, including aluminum.

**DOSE RATE:** Sentinel X400 should be dosed at 1% of system volume, i.e., 1 Quart per 25 Gallons of system water. For larger systems, additional X400 will be required. Overdosing does not present a problem. Please note: Where a thermal storage appliance is fitted, allowance must be made for the increased volume of primary water.

**DOSING INSTRUCTIONS:** Open vented systems: Dose via F&E cistern (sufficient draining from a low point is required to ensure that all of the product enters the circulating part of the system), or use a dosing bottle. Sealed systems: If the system is empty, add to any convenient point before filling. If full, use a dosing bottle to inject via the filling loop or other access point.

**DO NOT ADD TO PRIMATIC SYSTEMS**



## X500 – Inhibited Antifreeze

**APPLICATION:** Sentinel X500 is a multipurpose inhibited antifreeze formulated to help control corrosion, scale, boiler noise and hydrogen gassing in all types of indirect heating systems. It is suitable for use with all commonly encountered metals and alloys, including aluminum.

**USER INSTRUCTIONS:** The dosage of Sentinel X500 will depend on the level of frost protection required. A dosage of 20% will prevent freezing down to 20°F; 30% will protect down to 9°F; and 35% will protect down to 3°F. Further information is available on request. A dosage of 20% (ie 5 Gallon of Sentinel X500 added to a system having a typical volume of 25 Gallons) or more is needed to achieve the minimum concentration of corrosion and scale inhibitor. For best results, it is recommended that systems are cleaned and flushed using a suitable Sentinel cleaning product - see the AERCO website for guidance ([www.aerco.com](http://www.aerco.com)). If the system is already noisy due to limescale deposits in the heat exchanger, Sentinel X200 should be added together with Sentinel X500.

**DOSING INSTRUCTIONS:** Open vented Systems: Dose via the expansion header tank, via a by-pass feeder or use a dosing bottle. Sealed Systems: If the system is empty, add to any convenient point before filling. If full, use a dosing bottle to inject via the filling loop or other access point.

### **LEAVE IN SYSTEM DO NOT ADD TO PRIMATIC SYSTEMS**

**The product is not suitable for heat transfer circuits of solar energy collector panels in which temperatures may exceed 390°F or be subject to periods of stagnation.**



# Sentinel Product Dosing Information

Technical Instruction Document

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## Change Log

Date	Description	Changed By
05/12/2011	Rev A: Initial release	Curtis Harvey
10/16/2013	Rev B: Added X300 – System Cleaner, per PIR 889	Chris Blair



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