

Product Facts



Sentinel Commercial X500 Inhibited Antifreeze

Inhibited Antifreeze for Commercial Heating and Closed Cooling Systems

Features & Benefits

- Ideal for biomass boilers requiring frost protection
- Controls scale and corrosion
- Effective frost protection
- Helps prevent the formation of hydrogen gas
- Helps prevent boiler noise
- Suitable for all metals including aluminium
- Non-toxic and biodegradable
- Concentration is easily checked with a Sentinel Test Kit or refractometer
- Designed in accordance with ISO9001:2008

Application

Sentinel X500 is a multi-purpose inhibited antifreeze formulated to help control corrosion, scale, boiler noise and hydrogen gassing in all types of indirect heating systems & closed cooling systems including those containing aluminium components. It is an ideal product for biomass boilers requiring frost protection. If minimum levels are maintained the product ensures a permanent protection and does not need to be replaced. Sentinel X500 is suitable for use in hard or soft water. The low toxicity formulation is colourless and easy to handle.

Dosing

The dosage of Sentinel X500 will depend on the level of frost protection required (see below). A dosage of 20% by volume (i.e. 20 litres Sentinel X500 added for each 100 litres system volume) will provide frost protection down to -6°C (onset of freezing) and -10°C (bursting point). A dosage of 40% will protect down to -20°C (onset of freezing) and -28°C (bursting point).

Further information is available on request. A dosage of 20% or more is needed to achieve the



minimum concentration of corrosion and scale inhibitor.

The Sentinel Test Kit can be used to verify that this level has been reached. To determine the precise X500 concentration, a refractometer may be used; refer to the calibration graph below.

For best results, it is recommended that systems are first cleaned and flushed in accordance with standard cleaning and commissioning protocols such as BSRIA Guide "Pre-Commission Cleaning of Pipework Systems" or similar Water Treatment Guidelines from industry organisations such as the Industrial & Commercial Energy Association (ICOM).

Ideally, as part of such protocols, new systems and those up to 6 months old should be cleaned with Sentinel X300 and older systems with Sentinel X400 or Sentinel X800. For systems or parts of systems (such as under-floor heating circuits) which operate at temperatures below 60°C it is beneficial to sanitise the water circuits using Sentinel X700 following cleaning and flushing with the above products. If the system is already noisy due to limescale deposits in the heat exchanger, Sentinel X200 should be added together with Sentinel X500. In systems which

operate below 60°C or spend extended periods out of commission, the addition of Sentinel X700 to provide long term protection from bacterial activity should be considered.

Open heating systems: partially drain the system to provide enough volume to accommodate the X500 and feed the product into an area of adequate flow or use a by-pass feeder.

Closed heating & cooling systems: If the system is empty, add the product to any convenient point before filling. Otherwise first partially drain the system to provide enough volume to accommodate the X500. Systems which are subject to the continual addition of make-up water need to be periodically replenished with Sentinel X500 to ensure that the recommended dose level is maintained.

Physical Properties

- **Appearance:** Clear colourless liquid
- **Odour:** Mild, slightly sweet
- **Specific gravity:** 1.04 (20°C)
- **pH (5% aqueous):** 6.5 (approx)
- **Freezing point:** -58°C

Packaging

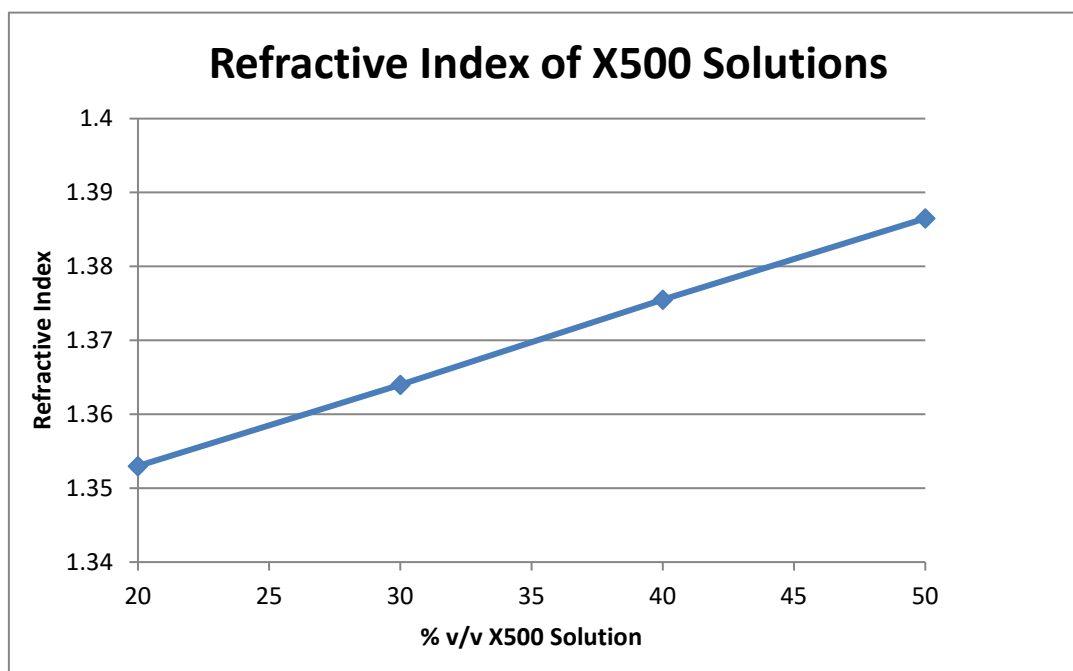
- 5 litre cubitainer
- 20 litre container
- 1000 litre semi-bulk container

Frost Protection

% X500	20	25	30	35	40	45	50
Freezing Point (°C)	-6	-8	-11	-15	-20	-24	-29
Bursting* Point (°C)	-11	-17	-24	-34	-40	-	-

* Burst protection is assured at X500 concentrations of 40% or above

Refractive Index



Safety Precautions

The information provided below enables compliance with the Control of Substances Hazardous to Health (COSHH) Regulations. A full Safety Data Sheet is available upon request.

Description	Inhibited Antifreeze for Commercial Heating and Closed Cooling Systems A solution of inorganic and organic corrosion and scale inhibitors in propylene glycol.
Health Hazards	Not for use in potable water systems. Not considered hazardous to health.
Handling	Avoid contact with skin and eyes. Keep out of reach of children and animals. Wash out empty container thoroughly with water before disposal.
Storage	Keep container tightly closed. Store in cool, well ventilated area.
Spillage	Flush spillage with plenty of water and wash to waste. On soil: Absorb on to inert material and dispose of according to Controlled Waste Regulations.
Fire/Explosion Risks	Non-flammable. Oxides of carbon and nitrogen evolved in fire.
First Aid	Skin Exposure: Wash immediately with plenty of water. Eye Exposure : Rinse immediately with plenty of water. Seek medical attention. Ingestion : Rinse mouth with water. Do NOT induce vomiting! Seek medical attention.

