



THERMOX DTX

Non Toxic Geothermal Antifreeze & Air Source Fluid

High Efficiency Non Toxic Heat Transfer Fluid with Antifreeze Function. Based on Ethylene Glycol blended with patented DeTox™ additive and ASTM D1384 proven Corrosion, Scale and Biological Inhibitors.



Antifreeze



Non-Toxic



Optimum Flow



Protection



Biodegradable



Quality Assured

Performance Properties

Thermox DTX has been especially formulated for use in Geothermal and Air Source heating systems, to exploit the advantages Ethylene Glycol has over Propylene Glycol - whilst delivering a non toxic solution. Specifically;

- More efficient heat transfer.
- Easier to pump, especially at low temperatures.
- Less volume for the same freeze protection.
- Cheaper per litre.

Antifreeze: **Thermox DTX** is miscible with water in all proportions and can protect Geothermal and Air Source systems down to -50°C depending on concentration.

Non Toxic: Although based on Ethylene Glycol, **Thermox DTX** has been tested and classified as Non Toxic by an EPA certified laboratory. Previously Propylene Glycol was the only non toxic glycol available, that is no longer the case. Hydratech in alliance with Evans Cooling Systems, Inc. have developed and patented the DeTox™ additive. DeTox™ prevents Ethylene Glycol from being metabolised (during digestion) into toxic by-products, which cause kidney failure, blindness and death. Tests carried out on **Thermox DTX** confirmed the toxicity was "so low that it was impossible to determine an LD50 value".

The DeTox™ additive has very little effect on heat transfer or antifreeze performance. In fact similar volumes of **Thermox DTX** or Ethylene Glycol are required to achieve a specific freeze protection.

Optimum Flow: **Thermox DTX** has improved heat transfer characteristics. Including lower Dynamic Viscosity and higher Thermal Conductivity. For detailed comparison please refer to the Fluid Performance Chart - available upon request.

Protection: **Thermox DTX** contains synergistic corrosion inhibitors to protect metals commonly found in such systems. It has been independently tested and found to meet BS6580 and ASTM D1384 corrosion standards. **Thermox DTX** also contains scale and biological inhibitors to help prevent fouling - thus promoting long operational life and high thermal efficiency.

Biodegradable: **Thermox DTX** mixtures are readily biodegradable (90% over ten days) and will not remain in the environment or bio-accumulate.

Quality Assured: All Hydratech products are manufactured in accordance with certified ISO9001-2008 procedures



HYDRATECH
Specialist Fluid Solutions

www.hydratech.co.uk
info@hydratech.co.uk
Tel: 01792 586800

Physical Properties:

Thermox DTX is a clear, slightly viscous liquid. It is mildly sweet to the taste and has a non-pungent but characteristic aroma.

Density: 1.04 - 1.15 g/cm³

pH: 7.5 - 10.5 depending on inhibitors

Boiling Point: >100°C

Application:

As per BSRIA guide BG 29/2012 all pipe-work systems should be clean and free from biological contamination and debris prior to commissioning.

To minimise corrosion air ingress should be minimized. A pressurised system is best.

Determine the total system volume and add **Thermox DTX** to the system according to the minimum operating temperature required (see table). The minimum dose of **Thermox DTX** should not be less than 22% of the system volume and the maximum does not normally exceed 60%. We recommend the use of deionised, distilled or UltraPure™ water for this dilution. Avoid water containing high levels of calcium salts or Chlorides [Cl-].

Diluting Concentrate:

When measuring the percentage concentration of Thermox DTX in solution we recommend the use of a recently calibrated refractometer.



Health & Safety: Please refer to the associated Safety Data Sheet. Available by Login or upon request.

Shelf Life: >3 years when stored in sealed containers out of direct sunlight.

Available in: 5, 10, 15, 20, 25, 205 & 1000 litre containers and bulk tankers.

Thermox DTX can be supplied as a Ready-To-Use solution.

Frost Protection °C	v/v of Thermox DTX	Refractive Index
-10	22%	1.356
-15	28%	1.362
-20	33%	1.367
-25	38%	1.372
-30	42%	1.376
-35	46%	1.380



SureFlow Support Services ensure that end users and distributors receive the full benefit of working with a specialist manufacturer.

- Expert technical advice on all aspects of fluid selection, including Environmental Impact Assessments, Thermal Performance etc.
- Fluid Maintenance Program; for the proactive verification of fluid and system condition.
- Huge stock inventory facilitating same day dispatch and delivery.
- Bespoke formulations for specialist applications.

Hydratech are contributing members of the following profession associations:

