



Solar Thermal Heating Fluid

High Efficiency, Non-Toxic, Extreme Temperature Rated Heat Transfer Fluid with Antifreeze. Based on Ethylene Glycol blended with patented DeTox™ additive and Reversibly Evaporable Inhibitors for use in Solar Thermal Heating Systems.



Antifreeze



Non-Toxic



Optimum Flow



Protection



Biodegradable



Quality Assured

Performance Properties:

Solaris DTX has been especially formulated for use in Solar Thermal 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: **Solaris DTX** is miscible with water in all proportions and can protect Solar Thermal Heating systems down to -55°C depending on concentration.

Non-Toxic: Although based on Ethylene Glycol, **Solaris 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 **Solaris 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 Solaris DTX or

Ethylene Glycol are required to achieve a specific freeze protection.

Optimum Flow: **Solaris 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: **Solaris DTX** has been tested in accordance with BS5117 procedures and found to meet BS6580 and ASTM D1384 corrosion standards. **Solaris DTX** also contains scale and biological inhibitors to help prevent fouling - thus promoting long operational life and high thermal efficiency. **Solaris DTX20** also contains a high temperature rated polyacrylate, formulated to prevent sludge precipitation and scale formation. Thus promoting long operational life and high thermal efficiency.

Biodegradable: **Solaris 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



Physical Properties:

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

Density: 1.02 - 1.15 g/cm³ depending on inhibitors
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 **Solaris DTX** to the system according to the minimum operating temperature required (see table). The minimum dose of **Solaris DTX** should not be less than 35% of the system volume and the maximum does not normally exceed 45%. 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 **Solaris DTX** in solution we recommend the use of a recently calibrated refractometer.



Health & Safety: Please refer to the associated Safety Data Sheet. Available via 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.

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

Frost Protection °C	v/v of Solaris DTX	Refractive Index
-20	35%	1.371
-25	40%	1.376
-30	45%	1.381



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.

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