

GOLDENSTONE® ECO HEAT FLUID

Technical Data Sheet (TDS)

Heat Transfer Fluid

Description and Application

Goldenstone® Eco Heat Fluid is latest generation innovative heat-transfer fluid based on glycols.

This product ensures optimal thermal conductivity and frost and corrosion protection for solar and heating systems imposing very low risks on people and environment. This product is free from potentially harmful substances such as nitrites, amines and phosphates that make it environmentally friendly.

Goldenstone® Eco Heat Fluid is recommended for use as heat-transfer media in:

- Solar heating systems
- Steam heating systems (boiler)
- Underfloor heating systems
- Geothermal heating systems
- HVAC
- Wet-pipe fire systems

Thanks to the vegetable and harmless components involved in its formulation the product is an appropriate substitute for ethylene and propylene glycol-based fluids. Thus, it can successfully be used in hospitals, hotels, public buildings, homes, country and holiday houses and industrial premises.

Benefits

- Excellent low-temperature performance comparable to that of ethylene and propylene glycol-based fluids.
- The glycols involved in product formulation are less toxic than ethylene glycol-based coolants
- Enhanced corrosion protection for circulating pumps, reservoirs and wet pipe fire systems and collector pipes and extended service life of the fluid
- Excellent compatibility with elastomers and seal materials used in solar, heat-transfer, fire and cooling systems.
- Thanks to its high boiling point this fluid ensures excellent scaling resistance for the contact heating surfaces.
- Its excellent low-temperature performance reduces costs for additional heating systems for water storage tanks of wet pipe fire systems at sub-zero temperatures.
- Environmentally friendly thanks to its components from renewable resources.

Typical Characteristics

Parameter	Test Method	Typical Value
Appearance	Visual	Clear fluid
Relative Density at 15.5°C	ASTM D 1122	1.154
Initial boiling point, °C	ASTM D 1120	189
Alkalinity,ml	ASTM D 1121	3.0

Important note: typical data values do not constitute a specification but are an indication based on current production and can be affected by allowable production tolerances. The right to make modifications is reserved.

Application

Goldenstone® Eco Heat Fluid is not ready for use fluid. It must be diluted with distilled or soft water before use. This type of water will minimize scaling caused by hard water and the addition of different mineral components such as chlorides and sulphates will be avoided since they can increase the rate of aluminium and iron corrosion. Low mineralized or treated tap water can also be used. The typical dilution ratio is 50/50 vol. %, which will guarantee "freezing protection"¹ down to minus 40°C ambient temperatures.

Goldenstone Eco Heat Fluid, % by volume	Density at 20°C, g/ml	Refractive Index at 20°C	pH	Initial Crystallization Point, (°C)	Initial Boiling Point, (°C)	Kinematic viscosity at 20°C, cSt
50	1.0911	1.3992	8.2	-36	111	6.91
40	1.0739	1.3863	7.64	-24	109	4.33
33	1.0626	1.3779	7.66	-15	-	3.41

Corrosion protection

ATSM D 1384 glass corrosion tests (33 vol.%v of **Goldenstone® Eco Heat Fluid** in distilled water):

Parameter	Result	Limits
Weight loss, mg/specimen		max
- Copper	-2	10
- Solder	10	30
- Brass	-3	10
- Steel	-1	10
- Cast Iron	-4	10
- Aluminium	-3	30

Health, Safety and Handling

Based on current available information, this product is not expected to produce adverse effects on health and environment when used for the intended applications.

For more information about product MSDS, terms and conditions for storage and shelf life please visit:

www.goldenstoneoils.com

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¹ Freezing Protection - this is the average of the values of Initial Crystallization Temperature and Pour Point