T UNFREEZE

heat transfer fluid base on monoethylene gylcol outstanding corrosion protection

Features and Benefits

• High quality base fluid monoethylene glycol (MEG)
Monoethylene glycol is the base fluid of T Unfreeze and is subject to severe quality control. Impurities, such as metal-ions, higher glycols and other undesirable contaminants would negatively affect thermal properties, and could also lead to reduced high temperature stability or increased foaming.

• Selective inhibitor technology
T Unfreeze is based on organic inhibitor technology, which is completely different from traditional inhibitor technology. The corrosion inhibitors of traditional technology form an isolating film on the interior of the installation, which means that they are consumed over time, and require repeated renewal to maintain corrosion protection. Organic inhibitors on the other hand, protect metals against corrosion by acting selectively by forming a mono-molecular protection layer on the location where corrosion has a tendency to start. This means that the inhibitor is only used where needed and therefore the rest of the inhibitor remains in reserve in the heat transfer fluid which gives a much longer corrosion protection life than traditional inhibitor technologies.

Increased heat transfer efficiency
With traditional inhibitors, the continuous build up of isolating layers on the heat exchanging surface reduces overall thermal efficiency. However, the organic inhibitors used in T Unfreeze form an extremely thin and durable layer of protective molecules on the metal surface. This thin protective layer maximises heat transfer, and as a result the energy efficiency of the system is preserved over time.

Excellent corrosion protection
T Unfreeze effectively protects different materials against corrosion, such as steel, copper, aluminium, brass and cast iron. In this way the formation of destructive oxides is prevented. This leads to major benefits for pumps, valves and heat exchangers:

• Because no abrasive deposits are formed, seal ageing or seal erosion in pumps is significantly reduced. This, together with the efficient protection of cast iron which is used in pump housings and other components, leads to increased overall pump reliability by up to 50%!
• In heat exchangers, the thermal characteristics remain stable during the lifetime of the installation. Clogging and the development of thermally insulating layers are prevented, and fluid flow is not obstructed in any way.
• Valves become more reliable in their operation, thanks to the efficient corrosion protection and absence of blocking layers.

Tempco Srl / via Lavoratori Autobianchi, 1 / 20832 Desio (MB) Italy / T +39 0362 300830 / F +39 0362 300253 / P.IVA 03026390967
www.tempco.it / **info@tempco.it**

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Long-lasting corrosion protection and high temperature stability

The use of virtually non-depleting inhibitors eliminates the need for costly and timeconsuming system top ups which are required with traditional technology products to replenish the corrosion inhibitors in the system. T Unfreeze provides a longlasting corrosion protection of the entire installation. Even in high temperature conditions, at which the base fluid glycol becomes more susceptible to degradation, the organic inhibitor performance in T Unfreeze is excellent. T Unfreeze technology has the unique capacity to slow down this rapid ageing process and only minor levels of degradation acids are found which is in contrast to some traditional technology heat transfer fluids working in similar conditions. The performance level of T Unfreeze is maintained over time, providing an extended life for your components and maximum protection for your system.

Applications

T Unfreeze has a wide range of industrial cooling applications and because of T Unfreeze's extraordinary inhibition and conserving effects, it is used in cooling or heating reactors, energy recuperation systems and compressor cooling, and also in the factory's climatisation. It is used in air conditioning systems, heat pumps and in floor/wall heating systems. T Unfreeze is also used in supermarkets because of its excellent corrosion protection when defrosting. Other applications include ice-rinks, ski-slopes, solar panels etc...

Availability and Distribution Channels

T Unfreeze is a concentrated product and should be diluted further with water for final use.
Ready-to-use dilutions with different freezing points are available - see table 1.
Our products are available in bulk, 1000L containers or drums and are available through our wide network of distributors.

Table 1: Ready-to-use dilutions of T Unfreeze

Freeze Point	Vol% T Unfreeze
-15°C*	28.0
-25°C	39.1
-40°C	52.4

* T Unfreeze -15°C contains an adjusted inhibitor concentration to ensure sufficient corrosion protection.

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