Rodutherm® W-PGA

Heat Transfer Fluid
Based on propylene glycol
-50 °C to 170 °C

Application

Although water is the best and cheapest heat transfer medium, it freezes at 0 °C and has a corrosive effect on many metals and alloys. The mixture of **Rodutherm® W- PGA** with water enables lower working temperatures, increases the boiling point and at the same time prevents corrosive effects on metallic systems.
Sufficient corrosion protection is provided by a proportion above 30 Vol.-% **Rodutherm® W-PGA**. The mixture can be made with normal tap water.

Rodutherm® W-PGA is used for cooling and heating in the temperature range from -50 °C to 170 °C.
The product is used in comparable areas like **Rodutherm® W-EGA**. In addition, the US FDA (Food and Drug Administration) has recognised propylene glycol with no additives as a food additive in Part 182 of the FDA guidelines for food additives. **Rodutherm® W-PGA** can therefore also be used for:

- Solar systems
- Ice production

Temperature stability in solar systems

Continuous temperatures of more than 170 °C lead to premature ageing of **Rodutherm® W-PGA**. In the case of solar systems with standstill temperatures above 170 °C, we recommend dimensioning the expansion tanks so that the heat transfer fluid can flow out of the collectors and be absorbed by the expansion tanks when the maximum standstill temperature is reached.

Quality

Rodutherm® W-PGA is a heat transfer fluid based on propylene glycol.

Rodutherm® W-PGA is almost odourless, biodegradable and has more favourable toxicity values than **Rodutherm® W-EGA**. The product is free of amines and nitrites, meaning that the formation of nitrosamines is prevented.

Compatibility and miscibility

Rodutherm® W-PGA can be mixed with most commercially available heat transfer fluids based on propylene glycol.

However, in order to achieve optimum protection of the system, we recommend the exclusive use of **Rodutherm® W-PGA**.

Elastomers such as EPDM, PE, PP and SBR are for example compatible with **Rodutherm® W-PGA.** Phenol and urea-formaldehyde resins, soft PVC and polyurethane elastomers are **not** resistant.

Use in systems made of galvanised steel is not recommended.

Handling and storage

Rodutherm® W-PGA should be stored at room temperature. The storage temperature should not exceed 35 °C over long periods.

Rodutherm® W-PGA can be stored in unopened containers for at least eight years without affecting the quality of the product.

It is recommended to decant the material only into new containers and not into used ones.

Packaging

Rodutherm® W-PGA is available as standard in steel drums and in canisters.

Notes

The safety data sheet must be observed when handling the product.

Please contact us if you would like further information or general technical advice.

Rodutherm® W-PGA

Technical Data (concentrate)

Propylene glycole	94 % w/w
Inhibitores and Water	6 % w/w
Density at 20 °C	1.042 g/ml
Viscosity at 20 °C	70 mm²/s
Pourpoint	-50 °C

Freezing points and Boiling points (Mixtures)

Rodutherm® W-PGA	**[Vol.-%]**	**34**	**44**	**48**	**54**	**57**
Freezing point	[°C]	-15	-25	-30	-40	-45
Boiling point	[°C]	103	105	105	107	108

Physical properties (Mixtures)

Rodutherm® W-PGA	**[Vol.-%]**	**34**	**44**	**48**	**54**	**57**
Density at -10 °C Density at 20 °C Density at 100 °C	[g/ml] [g/ml] [g/ml]	1.040 1.028 0.975	1.051 1.036 0.977	1.054 1.039 0.976	1.059 1.042 0.978	1.092 1.045 1.020
Viscosity at -10 °C Viscosity at 20 °C Viscosity at 100 °C	[mm²/s] [mm²/s] [mm²/s]	14.56 3.34 0.55	27.59 5.06 0.73	31.88 5.60 0.81	53.87 7.66 1.01	73.71 9.45 1.18
Heat Capacity at -10 °C Heat Capacity at 20 °C Heat Capacity at 100 °C	[kJ/kgK] [kJ/kgK] [kJ/kgK]	3.79 3.83 4.02	3.58 3.66 3.91	3.49 3.59 3.86	3.35 3.47 3.78	3.26 3.39 3.73