



Product Information Sheet

Solarliquid VT51 ready to use

Environmentally compatible, ready-to-use long-term anti-freeze with corrosion inhibitors for solar thermal systems
(for flat and vacuum tube collectors of copper or solid aluminum absorbers)

Product data:

Appearance:	purple colored liquid
Basis:	1.2-propanediol; monopropylene glycol
Flash point (°C):	> 100 (ASTM D 51758)
Boiling point (°C):	> 103 (ASTM D 1120)
Density (20°C):	1.035 - 1.045 g/cm ³ (DIN 51757)
Refractive index nD20:	1.442 - 1.447
Anti-freeze (crystal formation point):	approx. -28°C
Anti-freeze (ice solidification point):	approx. -35°C
Reserve alkalinity:	9.5 ml 0.1 HCL
Thermal conductivity (20°C):	approx. 40 W/m*K
pH value (20°C):	approx. 8.0 (ASTM D 1287)
Viscosity (20°C):	5.8 mm ² /s

Product properties:

Solarliquid VT51 ready to use is an odorless liquid on the basis of monopropylene glycol used as coolant solution or thermal transfer fluid in solar thermal systems.

Special corrosion inhibitors protect all metal and plastic materials commonly used in plant construction, including copper and aluminum, from corrosion, deposits and the formation of layers. In this way, the system efficiency will not suffer.

Seals are not attacked by Solarliquid VT 51 ready to use.

Solarliquid VT51 ready to use

- is partially miscible with other anti-freeze agents based on propylene glycol
- is inhibited free of nitrite, secondary amine, phosphate and borate
- is also suitable for solid aluminum absorbers. We have received clearance from SAPA (former Hydro Aluminium).
- is biodegradable

Solarliquid VT51 is exempt from hazard labeling according to the Hazardous Material Regulation (see materials safety data sheet).



General information:

Make sure that the circulation pump is suitable for operation with anti-freeze.

The system should be flushed with water and all connections pressure tested for leaks before filling.

The system should be filled with Solarliquid VT51 directly after the pressure test. Do not entrain air.

The product should not be in contact with zinc-coated components because zinc is not resistant to glycol.

According to our experience, Solarliquid VT51 has a shelf life and can be used for several years.

Despite that, the concentration (anti-freeze capability) should be checked once every year.

Do not use water to make up loss of liquid. Use only Solarliquid VT51 for topping up.

Corrosion and removal rates in g/m² (acc. to ASTM D 1384):

Material	Measuring value (g/m ²)	Max. permitted value D-1384 (g/m ²)	Solarliquid VT51 ready to use -28 °C briefly heated to 220 °C (g/m ²)
Aluminium	-0,4	10,0	0,0
Soft solder	0,9	10,0	1,2
Brass	0,7	3,6	0,4
Copper	0,1	3,6	0,4
Steel	0,0	3,6	-0,2
Grey cast iron	-0,8	3,6	-0,7

Recommended use:

The optimum application temperature is between -28°C and 170°C. For temperatures constantly over 170°C, we recommend using sufficiently sized expansion tank so that the thermal transfer fluid can drain from the collectors.

The thermal transfer fluid starts changing chemically slowly at temperatures above 200°C; in this case the system might no longer be safe to operate.

→ *We recommend our Solarliquid VT51 ready to use (up to approximately 260°C)*

Test method for corrosion properties:

We recommend checking the solar liquid regularly (at least once every year).

You can check the corrosion properties of the solar liquid by reference to the pH value.

The pH value should be > 7.5. Measure the pH value with a pH measuring strip. Replace the solar liquid if the pH value is lower.

If you have questions about our thermal transfer fluids we will be glad to assist you.









