

## STRUB GEO-OAT N

Cold and corrosion protection for all ground-source heat pump systems

Art. No. 32164

### Description

STRUB GEO-OAT N is a nitrite-, amine-, phosphate- and silicate-free mixture of corrosion inhibitors and monoethyl-englycol, according to the latest Organic Acid Technology (OAT).

Complies with all international specifications for antifreeze systems in terms of material compatibility, temperatures, long-term use, corrosion, etc.

### Features

STRUB GEO-OAT N is a clear, yellow colored, slightly smelling liquid based on mono-ethylene glycol. The product is miscible with water in any ratio and, depending on the concentration, provides frost protection down to approx. - 50°C. Mixtures of STRUB GEO-OAT N and water do not segregate.

The corrosion protection inhibitors of STRUB GEO-OAT N protect all metal materials commonly used in heat pump technology against corrosion, aging and incrustation for a long time and reliably, even in mixed installations.

STRUB GEO-OAT N/ water mixtures do not attack the sealing materials commonly used in heat pump technology.

### Miscibility

STRUB GEO-OAT N is miscible with all commercially available antifreeze agents based on ethylene glycol. However, we recommend consulting our application engineering department before mixing STRUB GEO-OAT N with other products.

### Application

STRUB GEO-OAT N is added to water in concentrations of at least 25 percent by volume (drinking water quality with max. 100 mg/kg chloride, or demineralized. Water) is added. If more than 60 % by volume of STRUB GEO-OAT N is added, the frost protection is reduced.

For reasons of corrosion safety, the application concentration should not fall below 25 percent by volume. At lower concentrations, there is a risk of corrosion for the system due to underinhibition.

### Technical data

Color	Yellowish
Spec. weight at 20°C	1.114 g/ml
Refraction at 20°C	1.430
Flash point	> 105°C
pH value concentrate	8.7
pH value 30 % in water	8.6
Reserve Alkalinity (ASTM D 1121)	min. 4 ml 0.1 m HCl
Specific heat at 20°C	2.3 kJ/kg K
Thermal conductivity at 20°C	0.29 W/m.K

The information in this technical data sheet is based on general knowledge and possible applications. Strub + Co. AG is not liable for damage resulting from improper use of the products. The measurement and production tolerances customary in the industry apply to the characteristic data given. In general, no legal binding force can be derived from these data. Our products are subject to continuous further development. Therefore, Strub + Co. AG reserves the right to change all technical data in this data sheet at any time and without prior notice.

**Guide values dilution: STRUB GEO-OAT N**

Vol. %	20	25	30	35	40	50
Freeze protection °C Ice crystals*	- 9	- 13	- 16.5	- 21	- 25	- 37
Antifreeze °C Crystal mush	- 10	- 14.5	- 18	- 24	- 28	- 41
pour point °C	- 11	- 17	- 21	- 26	- 32	- 48

**Transportation**

ADR/SDB: Not a dangerous good

**Disposal**

LVA VeVA / EAK: 16 01 15

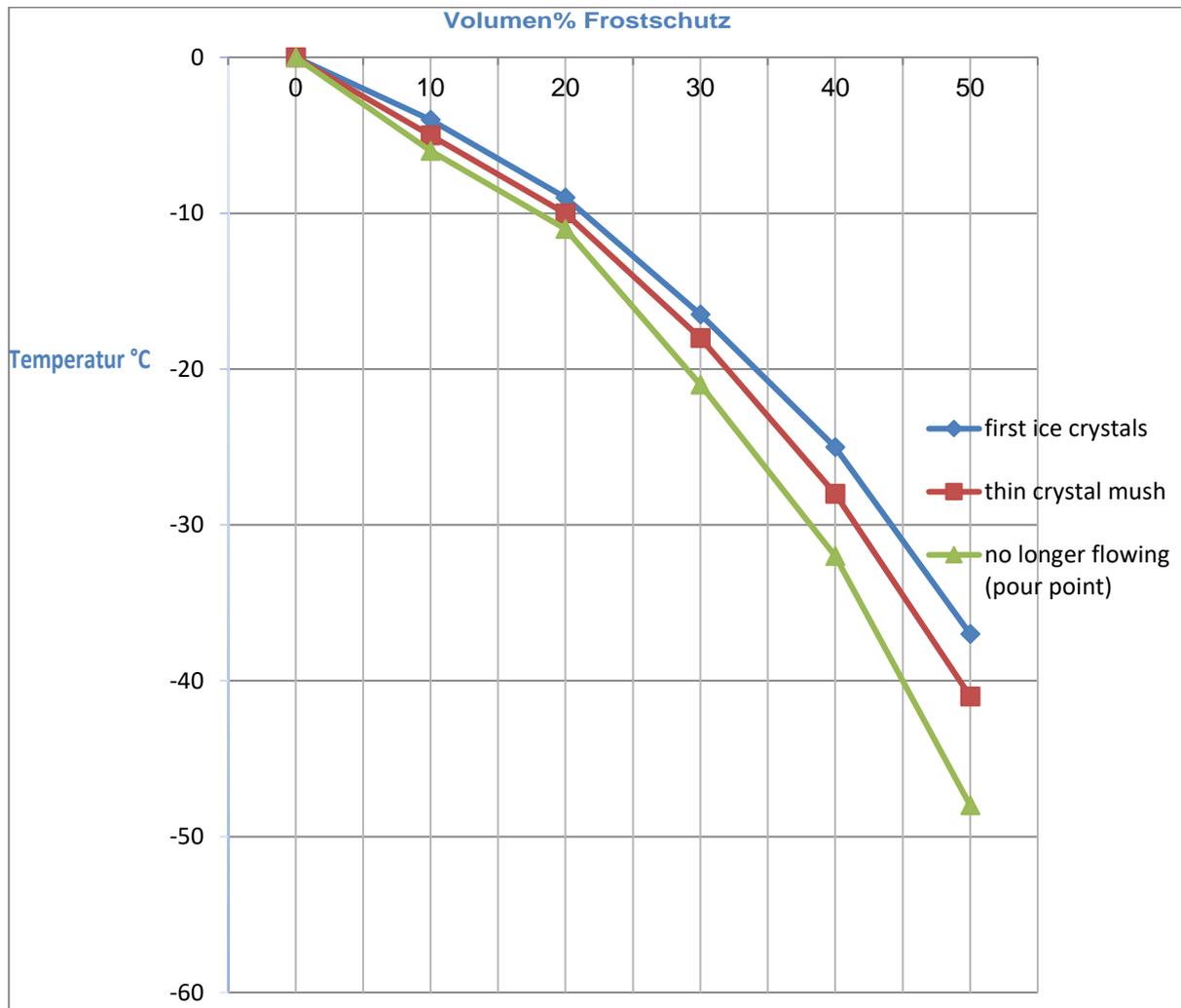
**General information on the antifreeze effect**

Freeze protection is the average temperature between the formation of ice flakes and the solidification point of the liquid. The antifreeze is still liquid and free-flowing.

Refractometers are available from Strub for determining frost resistance.

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**Freezing behavior of STRUB GEO-OAT N water mixtures:**



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