

Novarol Therm Syn 30

Heat transfer fluid

DESCRIPTION:

Novarol Therm Syn 30 is a synthetic organic fluid for liquid phase applications in closed, non-pressurized heat transfer systems with forced circulation. **Novarol Therm Syn 30** can be used instead of mineral oils. The upper limit of use was set at 300 °C. The advantageous working range is at operating temperatures between 150 °C and 300 °C. **Novarol Therm Syn 30** circuits can be operated optimally, even in the upper application range, with a low inert gas back pressure of approx. 50-100 mbar on the expansion tank. As inert gas Nitrogen has been proven.

Novarol Therm Syn 30 has proven to be highly resistant to thermal influences throughout its application. At high operating temperatures, however, the thermal decomposition leads to the formation of low- and high-boiling secondary products in tolerable quantities. The low-boiling components are advantageously discharged via the expansion vessel continuously or at appropriate maintenance intervals. Too much enrichment is to be avoided in order to ensure a safe operating condition of the system. Non-separated secondary products remain completely dissolved in the heat transfer fluid. With approach of the high boilers to a content of 15 mass-%, the filling should be replaced.

When used correctly, **Novarol Therm Syn 30** does not form highly viscous or solid deposits within its application limits. A formation of deposits on the heat exchanger surfaces or silting of the heat transfer medium circuit could not be observed until now.

Novarol Therm Syn 30 is relatively resistant to air for an organic heat transfer fluid. The product is particularly suitable for use in heat transfer circuits for the temperature control of processing machines, calenders, etc., in which, due to struc-

tural conditions, the action of air on the heat transfer fluid cannot be ruled out completely.

Due to its favorable viscosity curve, **Novarol Therm Syn 30** can be pumped around easily with conventional centrifugal pumps up to a temperature of approx. -10 °C, conveying problems when filling and starting a system with **Novarol Therm Syn 30** under unfavorable weather conditions has not to be feared. Construction and operation of the heat transfer system should be aligned with the recommendations of DIN 4754. By means of product-specific quality controls, the operating status of the heat transfer medium filling must be checked regularly.

Novarol Therm Syn 30 is a component of the comprehensive range of high-performance heat transfer fluids for the temperature range from -90 to 360 °C.

ADVANTAGES:

- Wide range of operating temperature
- Compatible with common materials used in plant construction
- No adverse effects in use so far detectable
- Relatively stable to air
- Low viscosity ensures turbulent flow and thus good heat transfer

STORAGE CONDITIONS:

Please store at clean and dry location in closed containers. We recommend to store the goods inside the building and to protect against frost, heat and direct sun exposure. For further information see also details in the MSDS (Material Safety Data Sheet).

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TECHNICAL DATA:

Property	Value	Unit	Method
Appearance	Clear liquid	-	visuell
Chlorine content	< 10	ppm	DIN 51408
Acid number	≤ 0,02	mg KOH/g	DIN EN ISO 2114
Density	0,850-0,900	g/cm ³	DIN 51757
Viscosity at			
20 °C	45	mm ² /s	DIN 51562
40 °C	ca. 21	mm ² /s	
Boiling range	ca. 330-400	°C	ASTM D 1078
Pour Point	ca. -60	°C	DIN ISO 3016
Flash point	ca. 180	°C	EN 22719
Ignition temperature	ca. 330	°C	DIN 51794
Permissible flow temperature	300	°C	
Permissible film temperature	340	°C	

MATERIAL DATA:

Temperature in °C	Density in kg/m ³	Specific heat in kJ/kg•K	Thermal conductivity in W/m•K
0	890	1,89	0,136
20	877	1,97	0,135
40	863	2,01	0,134
60	850	2,11	0,132
80	836	2,19	0,130
100	823	2,26	0,129

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It is the user's responsibility, to test the functional safety of the product in the field of application and to ensure a careful use of the product. Prior of using the product, we recommend our customers a personal consultation with one of our contact persons at Boss Lubricants GmbH & Co. KG, to receive comprehensive information about the operating conditions and performance characteristics of this product.

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