



**Physical properties of
KETTLITZ-Mediatherm SNS II**

1 Upper Application Limits/Reference Temperatures

1.1	Boiling Point (760 mm Hg, in acc. with DIN 51356, under vacuum)	(°C)	approx. 245
1.2	Flash Point (DIN 51584)	(°C)	> 205
1.3	Ignition Temperature (DIN 51794)	(°C)	> 320
1.4	Density at 15 °C (DIN 51757)	(g/cm ³)	1.130 ± 0.005
1.5	Max. Heater Outlet Temperature resp. Media Temperature	(°C)	approx. 150
1.6	Max. Film Temperature	(°C)	approx. 160
1.7	Decomposition Temperature (closed system)	(°C)	> 220, for long-term treatment > 150
1.8	Volatility (2 h/160 °C)	(%)	< 2
1.9	Viscosity at 40 °C (DIN 51562)	(mm ² /s)	32 ± 3

2 Lower Application Limits/Reference Temperature

2.1	Filling and Starting of Equipment (v ≤ 300 mm ² /s)	(°C)	approx. 40
2.2	Economical Application in Heat Transfer Systems (v ≤ 5 mm ² /s)	(°C)	approx. 110

3 Further Physical Properties

3.1	Color	(ASTM D 1500)	< 0.5
3.2	Molecular Weight	(relative)	approx. 300
3.3	Neutralization Value (DIN 51558)	(mg KOH/g)	max. 0.2
3.4	Conradson Coke Residue (DIN 51551)	(weight-%),	0
3.5	Water Content (DIN ISO 3733)	(%)	max. 0.5
3.6	Sulfur Content	(%)	< 0.001
3.7	Corrosive Influence on Copper, (Corrosion Degree DIN 51759)		1-100 A 3
3.8	Setting Point (DIN 51583)	(°C)	< -10



Physical properties of Mediatherm SNS II in relation to the temperature

Temperature ϑ in °C	Density ρ in g/cm ³	Kinematic Viscosity ν in mm ² /s	Dynamic Viscosity η in mPa·s	Coefficient of Cubical Expansion β in 1/K · 10 ⁻⁴	Real Specific Thermal Capacity C_p in KJ kg·K	Volum. Specific Thermal Capacity C_v in KJ m ³ ·K	Thermal Conductivity λ in W/(m·K)	Thermal Diffusivity a in mm ² /s	Prandtl- Value Pr —
-40 °C									
-20 °C									
0 °C	1.140	339.0	386.5	6.14	2.00	2.28	0.250	0.1096	3 091.7
20 °C	1.126	74.1	83.4	6.22	2.10	2.36	0.253	0.1070	692.6
40 °C	1.112	32.0	35.6	6.29	2.20	2.45	0.255	0.1042	298.4
60 °C	1.098	* 14.4	15.8	6.38	2.25	2.47	0.258	0.1044	137.9
80 °C	1.084	8.6	9.3	6.46	2.35	2.55	0.261	0.1025	83.9
100 °C	1.070	* 5.8	6.2	6.54	2.40	2.57	0.263	0.1024	56.6
120 °C	1.056	* 4.2	4.4	6.63	2.50	2.64	0.266	0.1008	41.7
140 °C	1.042	* 3.2	3.3	6.72	2.55	2.66	0.269	0.1012	31.6
160 °C	1.028	* 2.6	2.7	6.81	2.64	2.71	0.272	0.1002	25.9
180 °C									
200 °C									
220 °C									
240 °C									
260 °C									
280 °C									
300 °C									
320 °C									

* mathematically determined values for i

$$i = e^{-1.493 + \frac{588.7}{81.5 + \vartheta}}$$