

# FRAGOLTHERM® F-N

**Heat Transfer Fluid**  
**-10 °C to 300 °C**

## Application

FRAGOLTHERM® F-N is used for pressureless, indirect heating in heat transfer systems. Typical fields of application are, for example, heating of calendars and extruders as well as use in waste heat recovery systems.

FRAGOLTHERM® F-N can be used in the liquid phase at a temperature range of between -10 °C and 300 °C. If the pumpability limit can be extended up to 2000 mm<sup>2</sup>/s, an increase of the temperature range down to -34 °C is possible. The film temperature at the heater must not exceed 340 °C.

With use in high temperature ranges a nitrogen blanket is recommended in the expansion tank, in order to prevent premature ageing.

## Quality

FRAGOLTHERM® F-N is a synthetic heat transfer fluid based on alkylbenzene.

FRAGOLTHERM® F-N shows excellent viscosity characteristics down to -10 °C and provides a very low pour-point.

FRAGOLTHERM® F-N is non-corrosive and is compatible with materials conventionally used in heat transfer technology.



**Rodun International BV**

WE ALWAYS HAVE A SOLUTION FOR YOU!

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## Packaging

FRAGOLTHERM® F-N is available as standard in steel drums and pails.

## Notes

Please note that thermal or oxidative decomposition may cause an increase in low and high boiling substances when using heat transfer fluids even below the maximum specified bulk temperature.

When handling the product it is essential to observe the safety data sheet.

Please get in touch with us if you require further information or general technical advice.

## Properties

FRAGOLTHERM® F-N			Method
Density @ 20 °C	[kg/m <sup>3</sup> ]	874	-
Viscosity @ 40 °C	[mm <sup>2</sup> /s]	16.5	-
Viscosity @ 100°C	[mm <sup>2</sup> /s]	3.20	-
Pourpoint	[°C]	<-45	ASTM D 97
Flash point	[°C]	181	ASTM D 92
Boiling point @ 1013 mbar	[°C]	348	-
Max. film temperatur	[°C]	340	-
Max. bulk temperatur	[°C]	300	-
Dangerous goods according to IATA/IMDG/ADR	[-]	no	-

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## FRAGOL THERM® F-N

Temp. °C	Vapor Press. kPa (abs)	Density kg/m <sup>3</sup>	Heat Capacity kJ/kgK	Thermal Cond. W/mK	Visc. (kin) mm <sup>2</sup> /s	Visc. (dyn) mPas	Prandtl- Number
-10		893	1.81	0.134	316	282	3815
0		887	1.85	0.133	143	126	1759
10		880	1.88	0.133	69.7	61.3	867
20		874	1.92	0.132	39.4	34.4	501
30		867	1.96	0.131	23.9	20.7	310
40		861	1.99	0.130	16.5	14.2	217
50		854	2.03	0.129	11.6	9.91	156
60		848	2.06	0.129	8.40	7.12	114
70		841	2.10	0.128	6.70	5.63	92.4
80		835	2.13	0.127	5.20	4.34	72.8
90		828	2.17	0.126	4.10	3.39	58.5
100		822	2.20	0.125	3.20	2.63	46.3
110		815	2.24	0.125	2.60	2.12	38.0
120		809	2.27	0.124	2.20	1.78	32.6
130		802	2.31	0.123	1.94	1.56	29.2
140		796	2.34	0.122	1.70	1.35	26.0
150	1	789	2.38	0.121	1.56	1.23	24.2
160	1	783	2.41	0.121	1.38	1.08	21.5
170	1	776	2.45	0.120	1.24	0.96	19.6
180	2	770	2.49	0.119	1.10	0.85	17.7
190	2	763	2.52	0.118	1.01	0.77	16.5
200	3	757	2.56	0.117	0.88	0.67	14.6
210	4	750	2.59	0.117	0.82	0.62	13.6
220	5	744	2.63	0.116	0.76	0.57	12.8
230	6	737	2.66	0.115	0.72	0.53	12.3
240	8	731	2.70	0.114	0.67	0.49	11.6
250	11	724	2.73	0.113	0.64	0.46	11.2
260	14	718	2.77	0.113	0.58	0.42	10.2
270	18	711	2.80	0.112	0.55	0.39	9.78
280	23	705	2.84	0.111	0.50	0.35	9.02
290	30	698	2.87	0.110	0.48	0.34	8.74
300	39	692	2.91	0.109	0.47	0.33	8.68
310	48	685	2.94	0.109	0.46	0.32	8.50
320	59	679	2.98	0.108	0.45	0.31	8.43
330	74	672	3.02	0.107	0.44	0.30	8.35

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All the above information is provided to the best of our knowledge. Any legal liability for the content of this information and the suitability of the product for certain applications is rejected. Technical data are approximate values and are subject to the usual production fluctuations.