

THERMINOL[®] 55

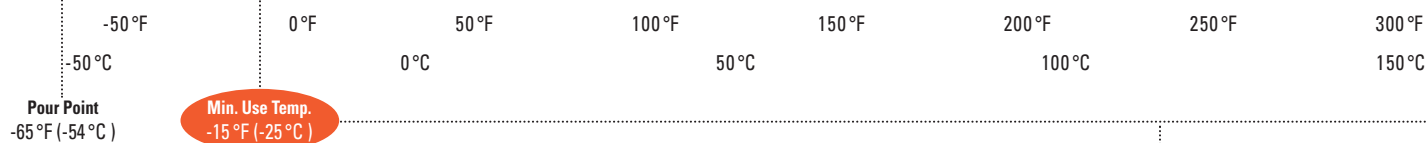
Heat Transfer Fluid by **Solutia**

Efficient,
Reliable, Synthetic
Heat Transfer Fluid

-15 °F to

550 °F





O P T I M U M

U S E R A N G E*

-15°F TO 550°F (-25°C TO 290°C)

Therminol® 55 is a unique, synthetic heat transfer fluid designed to provide reliable, consistent heat transfer performance over a long life.

This heat transfer fluid is a superior cost-performance alternative to common mineral oil-based heat transfer fluids.

THERMINOL® 55

Heat Transfer Fluid by **Solutia**



In many parts of the world, especially Europe, Solutia markets Therminol heat transfer fluids under the name of "Santotherm®" or "Giloterm®."



PROPERTIES OF THERMINOL® 55

Temperature		Liquid Density			Liquid Heat Capacity		Liquid Enthalpy**		Heat of Vaporization	
°F	°C	lb/gal	lb/ft³	kg/m³	Btu/lb-°F [cal/g-°C]	kJ/kg•K	Btu/lb	kJ/kg	Btu/lb	kJ/kg
-20	-29	7.55	56.5	905	0.414	1.73	-8.4	-19.4	180.0	418.3
-15	-26	7.53	56.4	903	0.416	1.74	-6.3	-14.6	179.1	416.3
0	-18	7.49	56.0	897	0.423	1.77	0.0	0.0	176.6	410.5
20	-7	7.42	55.5	890	0.433	1.81	8.6	19.9	173.2	402.7
40	4	7.36	55.1	882	0.442	1.85	17.3	40.3	170.0	395.1
60	16	7.30	54.6	875	0.453	1.89	26.3	61.0	166.7	387.5
80	27	7.24	54.1	867	0.461	1.93	35.4	82.3	163.5	380.1
100	38	7.17	53.7	860	0.471	1.97	44.7	103.9	160.4	372.8
120	49	7.11	53.2	852	0.480	2.01	54.2	126.0	157.3	365.6
140	60	7.05	52.7	845	0.490	2.05	63.9	148.6	154.2	358.5
160	71	6.99	52.3	837	0.499	2.09	73.8	171.6	151.2	351.5
180	82	6.93	51.8	830	0.509	2.13	83.9	195.0	148.2	344.6
200	93	6.86	51.3	822	0.518	2.17	94.1	218.9	145.3	337.8
220	104	6.80	50.9	815	0.528	2.21	104.6	243.2	142.4	331.1
240	116	6.74	50.4	807	0.537	2.25	115.2	267.9	139.6	324.5
260	127	6.67	49.9	800	0.546	2.29	126.1	293.1	136.8	317.9
280	138	6.61	49.4	792	0.556	2.32	137.1	318.7	134.0	311.5
300	149	6.54	49.0	784	0.565	2.36	148.3	344.7	131.3	305.1
320	160	6.48	48.5	777	0.574	2.40	159.7	371.2	128.6	298.8
340	171	6.42	48.0	769	0.584	2.44	171.3	398.1	125.9	292.6
360	182	6.35	47.5	761	0.593	2.48	183.0	425.5	123.2	286.5
380	193	6.28	47.0	753	0.602	2.52	195.0	453.3	120.6	280.3
400	204	6.22	46.5	745	0.612	2.56	207.1	481.5	118.0	274.3
420	216	6.15	46.0	737	0.621	2.60	219.5	510.2	115.4	268.3
440	227	6.08	45.5	729	0.630	2.64	232.0	539.3	112.8	262.3
460	238	6.01	45.0	721	0.640	2.68	244.7	568.8	110.2	256.3
480	249	5.94	44.5	712	0.649	2.72	257.6	598.7	107.7	250.3
500	260	5.87	43.9	704	0.658	2.75	270.6	629.1	105.1	244.3
520	271	5.80	43.4	695	0.668	2.79	283.9	660.0	102.5	238.3
540	282	5.73	42.8	686	0.677	2.83	297.4	691.2	99.9	232.3
550	288	5.69	42.6	682	0.682	2.85	304.2	707.0	98.6	229.3
560	293	5.65	42.3	677	0.686	2.87	311.0	722.9	97.3	226.3
580	304	5.58	41.7	668	0.696	2.91	324.8	755.0	94.7	220.1
600***	316	5.50	41.1	659	0.705	2.95	338.8	787.6	92.0	214.0

* Optimum bulk temperature 550°F (290°C).

† These data are based upon samples tested in the laboratory and are not guaranteed for all samples. Write us for complete sales specifications for Therminol 55 fluid.
Does not constitute an express warranty. See NOTICE on inside back cover of this brochure.

** The liquid enthalpy basis is zero at 0°F.

*** Extended bulk temperature 600°F (315°C).

HEAT TRANSFER FLUID^{*†}

Liquid Thermal Conductivity			Liquid Viscosity			Vapor Pressure				Temperature	
Btu/ ft-hr-°F	kcal/ m-hr-°C	W/m•K	lb/ft-hr	cSt [mm²/s]	cP [mPa•s]	psia	mm Hg	kgf/cm²	kPa	°F	°C
0.0775	0.1153	0.1341	4600	2100	1900					-20	-29
0.0773	0.1151	0.1337	3400	1560	1405					-15	-26
0.0768	0.1143	0.1328	1480	683	612					0	-18
0.0760	0.1131	0.1315	571	265	236					20	-7
0.0753	0.1120	0.1302	255	119.5	105.4					40	4
0.0746	0.1110	0.1289	128.5	60.7	53.1					60	16
0.0738	0.1098	0.1276	71.5	34.1	29.6					80	27
0.0731	0.1087	0.1264	43.2	20.8	17.87					100	38
0.0723	0.1076	0.1251	28.0	13.57	11.57					120	49
0.0716	0.1065	0.1238	19.19	9.39	7.93					140	60
0.0708	0.1054	0.1225	13.80	6.82	5.71					160	71
0.0701	0.1043	0.1212	10.34	5.15	4.27	0.0018	0.091	0.00012	0.012	180	82
0.0693	0.1032	0.1199	8.01	4.03	3.31	0.0033	0.17	0.00023	0.023	200	93
0.0686	0.1021	0.1186	6.39	3.24	2.64	0.0059	0.31	0.00042	0.041	220	104
0.0678	0.1009	0.1173	5.22	2.67	2.16	0.010	0.53	0.00073	0.071	240	116
0.0671	0.0998	0.1160	4.35	2.25	1.797	0.017	0.90	0.0012	0.12	260	127
0.0663	0.0987	0.1147	3.69	1.924	1.524	0.029	1.5	0.0020	0.20	280	138
0.0656	0.0976	0.1134	3.17	1.672	1.311	0.046	2.4	0.0033	0.32	300	149
0.0648	0.0965	0.1121	2.76	1.471	1.142	0.073	3.8	0.0051	0.50	320	160
0.0641	0.0954	0.1108	2.43	1.307	1.005	0.112	5.8	0.0079	0.77	340	171
0.0633	0.0942	0.1095	2.16	1.173	0.892	0.168	8.7	0.0118	1.16	360	182
0.0626	0.0931	0.1082	1.931	1.060	0.798	0.248	12.8	0.0175	1.71	380	193
0.0618	0.0920	0.1069	1.737	0.964	0.718	0.360	18.6	0.0253	2.49	400	204
0.0610	0.0909	0.1056	1.572	0.882	0.650	0.515	26.6	0.0362	3.55	420	216
0.0603	0.0897	0.1043	1.428	0.810	0.590	0.724	37.4	0.0509	4.99	440	227
0.0595	0.0886	0.1030	1.302	0.747	0.538	1.00	51.9	0.0706	6.92	460	238
0.0588	0.0875	0.1017	1.190	0.691	0.492	1.37	71.0	0.0965	9.47	480	249
0.0580	0.0863	0.1003	1.091	0.641	0.451	1.85	95.9	0.130	12.8	500	260
0.0573	0.0852	0.0990	1.002	0.596	0.414	2.47	128	0.174	17.1	520	271
0.0565	0.0841	0.0977	0.922	0.555	0.381	3.27	169	0.230	22.5	540	282
0.0561	0.0835	0.0971	0.885	0.536	0.366	3.74	193	0.263	25.8	550	288
0.0557	0.0829	0.0964	0.849	0.518	0.351	4.27	221	0.300	29.4	560	293
0.0550	0.0818	0.0951	0.783	0.484	0.324	5.52	285	0.388	38.0	580	304
0.0542	0.0807	0.0938	0.722	0.453	0.298	7.07	365	0.497	48.7	600	316

TECHNICAL SERVICE HOTLINE (800) 433-6997



PHYSICAL AND CHEMICAL CHARACTERISTICS

Therminol 55 has an optimum economic operating range of -15 °F to 550 °F (-25 °C to 290 °C). It can be used to an extended bulk temperature of 600 °F (315 °C).

Therminol 55 fluid is designed for use in non-pressurized/low-pressure, indirect heating systems. It delivers efficient, dependable, uniform process heat with no need for high pressures. The high boiling point of Therminol 55 helps reduce the volatility and fluid leakage problems associated with other fluids.

While Therminol 55 has a relatively high flash point, it is not classified as a fire-resistant heat transfer fluid. Consequently, the use of protective devices may be required to minimize fire risk. The insurer of your property should be consulted relative to this matter.

The recommended optimum economic bulk temperature (550 °F/290 °C) is based on detailed thermal studies. Operation at or below this temperature provides long service life under most operating conditions. Therminol 55 can be utilized up to the extended maximum use temperature of 600 °F (315 °C).

Actual fluid life is quite dependent on system design and operation. As fluid ages, the formation of volatile (low-boiling) products and high-boiling compounds may result. Volatile products should be vented from the system to a non-hazardous area away from personnel

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Therminol 55 has been shown to be significantly less sensitive than mineral oils to the negative consequences (sludging, fouling) of thermal oxidation. However, to further minimize the potential for fluid oxidation, systems utilizing heat transfer fluids should be blanketed with an inert atmosphere. A system pressure relief device also should be provided.

Therminol 55 is non-corrosive to metals commonly used in the design of heat transfer systems.

and sources of ignition. The high-boiling compounds are generally soluble in the fluid. Overheating or fluid contamination will accelerate this decomposition and may result in separation of the high-boiling compounds as solids (tar, coke, etc.). These solids could be detrimental to the operation of the system and, when detected, should be removed.

SAFETY AND HANDLING: Material Safety Data Sheets may be obtained from Environmental Operations, Industrial Products Group, Solutia Inc. Heat transfer fluids are intended only for indirect heating purposes. Under no circumstances should this product contact or in any way contaminate food, animal feed, food products, food packaging materials, food chemicals, pharmaceuticals or any items which may directly or indirectly be ultimately ingested by humans. Any contact may contaminate these items to the extent that their destruction may be required. Precautions against ignitions and fires should be taken with this product.

NOTICE: Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Solutia Inc. makes no representations or warranties as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Solutia Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information or the product to which Information refers. Nothing contained herein is to be construed as a recommendation to use any product, process, equipment or formulation in conflict with any patent, and Solutia Inc. makes no representation or warranty, express or implied, that the use thereof will not infringe any patent. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

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For order assistance

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Houston

1800 West Loop South
Suite 1360
Houston, Texas 77027
Tel: (713) 850-0088
Fax: (713) 850-0096

St. Louis

P.O. Box 66760
St. Louis, Missouri 63166-6760
Tel: (314) 674-1000
Fax: (314) 674-7433

INTERNATIONAL SALES OFFICES

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Solutia Argentina S.R.L.
Alicia Moreau de Justo 1050,
3rd Floor
1107 Puerto Madero
Buenos Aires, Argentina
Tel: 54-1-331-4077
Fax: 54-1-331-7481

Australia

Solutia Australia Pty. Ltd.
Level 1, 437 Canterbury Road
Surrey Hills, Victoria 3127
Australia
Tel: 61-3-9888-4589
Fax: 61-3-9888-4562

Belgium

Solutia Europe N.V./S.A.
Rue Laid Burniat, 3
Parc Scientifique - Fleming
B-1348 Louvain-la-Neuve (Sud)
Belgium
Tel: 32.10.48.12.11
Fax: 32.10.48.12.12

Brazil

Solutia Brazil Ltda.
Rua Gomes de Carvalho
1306-60. Andar 04547-005
Sao Paulo, SP, Brazil
Tel: 55-11-5087-3000
Fax: 55-11-5087-3030

Canada

Solutia Canada Inc.
2233 Argenta Road
P.O. Box 787
Mississauga, Ontario
L5M 2G4 Canada
Tel: 905-826-9222
Fax: 905-826-3119

China-PRC

Solutia Chemical Co. Ltd., Suzhou
9th Floor, Kings Tower
16 Shi Shan Road
Suzhou New District, PRC 215011
Tel: 86-512-825-3191
Fax: 86-512-825-0417

Colombia

Solutia Colombia Ltda.
Carrera 7 No. 71-21
Torre B, ofc.: 906
Santa Fe de Bogota, DC
Colombia
Tel: 571-317-48-20
Fax: 571-317-48-20

India

Solutia Chemicals India Private
Limited
205-207, 'Midas'
Sahar Plaza Complex
Andheri-Kurla Road
Andheri (E)
Mumbai 400 059 India
Tel: 91 22 8302862/64
Fax: 91 22 8310059

Japan

Solutia Japan Ltd.
Shinkawa Sanko Building
Second Floor
1-13-17, Shinkawa, Chuo-ku
Tokyo 104-0033, Japan
Tel: (03) 3523 2080
Fax: (03) 3523 2070

Korea

Solutia Korea Ltd.
3rd Floor, Anglican Church Building
3-7, Jeong-dong, Joong-gu,
Seoul 100-120, Korea
Tel: 82-2-736-7112
Fax: 82-2-739-5049

Malaysia

Solutia Hong Kong Ltd.
Malaysia Branch
12th Floor (1309-B)
Kelana Parkview Tower
No. 1 Jalan SS 6/2
Kelana Jaya
47301 Petaling Jaya
Selangor, Malaysia
Tel: 60-3-704-0279
Fax: 60-3-704-4067

Mexico

Solutia Mexico, S. de R.L. de C.V.
Edificio Torre Esmeralda
Blvd. Manuel Avila Camacho
No. 40, Piso 12
Colonia Lomas de Chapultepec
11000 Mexico, D.F.
Tel: 525-202-5600
Fax: 525-202-0979

Singapore

Solutia Singapore Pte. Ltd.
101 Thomson Road
#19-01/02 United Square
Singapore 307591
Tel: 65-355-7239
Fax: 65-254-3138

Taiwan

Solutia Taiwan Inc.
2F, 124 Chung Cheng Road
Shin Lin District, Taipei
Taiwan, R.O.C.
Tel: 886-2-2835-1666
Fax: 886-2-8866-2703

Thailand

Solutia Thailand Ltd.
19th Floor, SCB Park Plaza
19 Ratchadapisek Road
Laadyao, Chatuchak
Bangkok, Thailand 10900
Tel: 66-2-937-8860
Fax: 66-2-937-8865

Venezuela

Solutia Venezuela SRL
Avenida Francisco de Miranda
Edificio Parque Cristal
Torre Oeste, Piso 13 Ofc 13-4
Los Palos Grandes
Caracas 1062, Venezuela
Tel: 582-285-50-37
Fax: 582-285-71-13

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www.therminol.com