

Ihsan Barin

# Thermochemical Data of Pure Substances

Third Edition

in collaboration with  
Gregor Platzki

Volume II La – Zr



Weinheim  
New York  
Basel  
Cambridge  
Tokyo

Prof.-Dr. Ing. Ihsan Barin  
ZEUS  
Umweltanalytik und Verfahrenstechnik  
Hamborner Straße 20  
D-47137 Duisburg

Thyssen Still Otto Anlagentechnik GmbH  
Christstr. 9  
D-44789 Bochum

This book was carefully produced. Nevertheless, authors, editors and publisher do not warrant the information contained therein to be free of errors. Readers are advised to keep in mind that statements, data, illustrations, procedural details or other items may inadvertently be inaccurate.

First Edition 1989  
Second Edition 1993  
Third Edition 1995

Published jointly by  
VCH Verlagsgesellschaft mbH, Weinheim (Federal Republic of Germany)  
VCH Publishers, Inc., New York, NY (USA)

Editorial Directors: Karin Sora, James Gardiner  
Production Manager: Dipl.-Ing. (FH) Hans Jörg Maier  
Library of Congress Card No. applied for.

British Library Cataloguing-in-Publication Data: A catalogue record for this book is available from the British Library.

Die Deutsche Bibliothek – CIP-Einheitsaufnahme

**Barin, Ihsan:**

Thermochemical data of pure substances / Ihsan Barin. In  
collab. with Gregor Platzki. – Weinheim ; New York ; Basel ;  
Cambridge ; Tokyo : VCH.

ISBN 3-527-28745-0 (3. Aufl.) Gb.

ISBN 3-527-28531-8 (Weinheim ...)

ISBN 1-56081-717-8 (New York ...)

ISBN 3-527-27812-5 (Weinheim ..., 1. Aufl.)

ISBN 0-89573-866-X (New York ..., 1. Aufl.)

NE: HST

Vol. 2. La-Zr.-3. ed.-1995

© VCH Verlagsgesellschaft mbH, D-69451 Weinheim (Federal Republic of Germany), 1995

Printed on acid-free and chlorine-free paper.

All rights reserved (including those of translation into other languages). No part of this book may be reproduced in any form – by photoprinting, microfilm, or any other means – nor transmitted or translated into a machine language without written permission from the publishers. Registered names, trademarks, etc. used in this book, even when not specifically marked as such, are not to be considered unprotected by law.

Composition: Tables: Kühn & Weyh, Software GmbH, D-79111 Freiburg. Text: K+V Fotosatz GmbH, D-64743 Beerfelden.

Printing: Wiesbadener Graphische Betriebe GmbH, D-65199 Wiesbaden.

Bookbinding: IVB Industrie- und Verlagsbuchbinderei Heppenheim GmbH, D-64646 Heppenheim.

Printed in the Federal Republic of Germany.

32.066

## SULFUR

S

Phase	T [ K ]	$C_p$ [ ————— ]	S J / (K mol)	$-(G-H_{298})/T$ [ ————— ]	H [ ————— ]	H-H <sub>298</sub> [ ————— ]	G kJ / mol	$\Delta H_f$ [ ————— ]	$\Delta G_f$ [ ————— ]	log $K_f$ [ - ]
SOL - A	298.15	22.761	32.056	32.056	0.000	0.000	-9.557	0.000	0.000	0.000
	300.00	22.796	32.197	32.056	0.042	0.042	-9.617	0.000	0.000	0.000
	368.30	24.167	37.006	32.539	1.645	1.645	-11.984	0.000	0.000	0.000
			1.089		0.401					
SOL - B	368.30	24.694	38.094	32.539	2.046	2.046	-11.984	0.000	0.000	0.000
	388.36	25.319	39.414	32.860	2.545	2.545	-12.762	0.000	0.000	0.000
			4.431		1.721					
LIQ	388.36	32.325	43.846	32.860	4.266	4.266	-12.762	0.000	0.000	0.000
	400.00	29.666	44.752	33.193	4.623	4.623	-13.277	0.000	0.000	0.000
	500.00	38.779	53.413	36.362	8.526	8.526	-18.181	0.000	0.000	0.000
	600.00	33.724	59.947	39.778	12.101	12.101	-23.867	0.000	0.000	0.000
	700.00	32.971	65.050	43.034	15.411	15.411	-30.124	0.000	0.000	0.000
	800.00	34.509	69.534	46.071	18.771	18.771	-36.856	0.000	0.000	0.000
	882.12	36.795	73.010	48.418	21.694	21.694	-42.710	0.000	0.000	0.000

## References

Phase	H / S	$C_p$	Remarks
SOL - A	Ja2	Mi1	complex fc-orthorhombic
SOL - B	Ja2	Mi1	complex monoclinic
LIQ	Ja2	Mi1	Ja2 BPT = 882.117 (S2), L = 53.326/NBPT = 717.824 (S6 + S7 + S8...), L = 9.62

S[g]

## SULFUR (GAS)

32.066

Phase	T [K]	C <sub>p</sub>	S	-(G-H298)/T	H	H-H298	G	ΔH <sub>f</sub>	ΔG <sub>f</sub>	log K <sub>f</sub>
GAS	298.15	23.578	167.828	167.828	276.980	0.000	226.942	276.980	236.500	-41.434
	300.00	23.556	167.974	167.828	277.024	0.044	226.631	276.981	236.248	-41.135
	400.00	22.782	174.629	168.741	279.335	2.355	209.484	274.712	222.761	-29.090
	500.00	22.401	179.668	170.443	281.593	4.613	191.759	273.067	209.940	-21.932
	600.00	22.175	183.731	172.330	283.821	6.841	173.582	271.719	197.449	-17.189
	700.00	22.022	187.137	174.208	286.030	9.050	155.034	270.619	185.158	-13.817
	800.00	21.908	190.070	176.012	288.226	11.246	136.171	269.455	173.027	-11.298
	900.00	21.817	192.645	177.720	290.412	13.432	117.032	215.435	162.200	-9.414
	1000.00	21.740	194.939	179.329	292.590	15.610	97.651	215.778	156.267	-8.163
	1100.00	21.672	197.008	180.844	294.761	17.781	78.052	216.106	150.300	-7.137
	1200.00	21.610	198.891	182.270	296.925	19.945	58.256	216.422	144.303	-6.281
	1300.00	21.553	200.619	183.616	299.083	22.103	38.279	216.726	138.281	-5.556
	1400.00	21.499	202.214	184.888	301.236	24.256	18.136	217.019	132.236	-4.934
	1500.00	21.447	203.695	186.093	303.383	26.403	-2.160	217.303	126.170	-4.394
	1600.00	21.397	205.078	187.237	305.525	28.545	-22.600	217.577	120.086	-3.920
	1700.00	21.349	206.374	188.325	307.662	30.682	-43.173	217.841	113.984	-3.502
	1800.00	21.301	207.592	189.362	309.795	32.815	-63.872	218.097	107.868	-3.130
	1900.00	21.255	208.743	190.352	311.923	34.943	-84.689	218.344	101.737	-2.797
	2000.00	21.209	209.832	191.299	314.046	37.066	-105.618	218.583	95.593	-2.497
	2100.00	21.163	210.866	192.206	316.164	39.184	-126.654	218.813	89.438	-2.225
	2200.00	21.118	211.849	193.077	318.278	41.298	-147.790	219.035	83.272	-1.977
	2300.00	21.074	212.787	193.914	320.388	43.408	-169.022	219.249	77.096	-1.751
	2400.00	21.030	213.683	194.719	322.493	45.513	-190.346	219.455	70.911	-1.543
	2500.00	21.839	214.574	195.496	324.675	47.695	-211.759	219.734	64.716	-1.352
	2600.00	21.878	215.431	196.246	326.861	49.881	-233.259	220.013	58.510	-1.175
	2700.00	21.917	216.257	196.972	329.051	52.071	-254.844	220.292	52.293	-1.012
	2800.00	21.956	217.055	197.675	331.244	54.264	-276.510	220.572	46.066	-0.859
	2900.00	21.996	217.826	198.357	333.442	56.462	-298.254	220.852	39.829	-0.717
	3000.00	22.036	218.573	199.018	335.644	58.664	-320.074	221.133	33.582	-0.585

## References

Phase	H / S	C <sub>p</sub>
GAS	Ja2	Mi1

64.132

## SULFUR (GAS)

S2[g]

Phase	T [ K ]	$C_p$ [ ————— ]	S J / (K mol)	$-(G-H_{298})/T$ [ ————— ]	H [ ————— ]	H-H <sub>298</sub> kJ / mol	G [ ————— ]	$\Delta H_f$ [ ————— ]	$\Delta G_f$ [ ————— ]	log $K_f$ [ - ]
GAS	298.15	32.448	228.165	228.165	128.600	0.000	60.573	128.600	79.688	-13.961
	300.00	32.501	228.366	228.166	128.660	0.060	60.150	128.576	79.384	-13.822
	400.00	34.399	238.014	229.468	132.018	3.418	36.813	122.771	63.368	-8.275
	500.00	35.313	245.798	231.981	135.508	6.908	12.609	118.457	48.972	-5.116
	600.00	35.840	252.287	234.840	139.068	10.468	-12.304	114.865	35.429	-3.084
	700.00	36.185	257.839	237.738	142.671	14.071	-37.817	111.848	22.431	-1.674
	800.00	36.432	262.688	240.560	146.302	17.702	-63.848	108.760	9.865	-0.644
	900.00	36.622	266.990	243.263	149.955	21.355	-90.336	0.000	0.000	0.000
	1000.00	36.777	270.857	245.832	153.625	25.025	-117.232	0.000	0.000	0.000
	1100.00	36.910	274.369	248.269	157.310	28.710	-144.496	0.000	0.000	0.000
	1200.00	37.026	277.585	250.580	161.007	32.407	-172.096	0.000	0.000	0.000
	1300.00	37.132	280.553	252.773	164.715	36.115	-200.005	0.000	0.000	0.000
	1400.00	37.230	283.309	254.857	168.433	39.833	-228.199	0.000	0.000	0.000
	1500.00	37.321	285.880	256.840	172.160	43.560	-256.660	0.000	0.000	0.000
	1600.00	37.408	288.292	258.731	175.897	47.297	-285.370	0.000	0.000	0.000
	1700.00	37.492	290.562	260.538	179.642	51.042	-314.314	0.000	0.000	0.000
	1800.00	37.573	292.708	262.266	183.395	54.795	-343.478	0.000	0.000	0.000
	1900.00	37.652	294.741	263.922	187.156	58.556	-372.852	0.000	0.000	0.000
	2000.00	37.729	296.674	265.512	190.926	62.326	-402.423	0.000	0.000	0.000
	2100.00	37.805	298.517	267.040	194.702	66.102	-432.184	0.000	0.000	0.000
	2200.00	37.879	300.277	268.511	198.486	69.886	-462.124	0.000	0.000	0.000
	2300.00	37.953	301.963	269.929	202.278	73.678	-492.237	0.000	0.000	0.000
	2400.00	38.026	303.580	271.298	206.077	77.477	-522.514	0.000	0.000	0.000
	2500.00	38.098	305.133	272.620	209.883	81.283	-552.950	0.000	0.000	0.000
	2600.00	38.169	306.629	273.900	213.697	85.097	-583.539	0.000	0.000	0.000
	2700.00	38.240	308.071	275.139	217.517	88.917	-614.275	0.000	0.000	0.000
	2800.00	38.311	309.463	276.340	221.345	92.745	-645.152	0.000	0.000	0.000
	2900.00	38.381	310.809	277.505	225.179	96.579	-676.166	0.000	0.000	0.000
	3000.00	38.451	312.111	278.637	229.021	100.421	-707.312	0.000	0.000	0.000

## References

Phase	H / S	$C_p$
GAS	Ja2	Mi1

S3[g]

## SULFUR (GAS)

96.198

Phase	T [K]	$C_p$ [ $\frac{J}{K \text{ mol}}$ ]	S [ $\frac{J}{K \text{ mol}}$ ]	$-(G-H_{298})/T$ [ $\frac{J}{K \text{ mol}}$ ]	H [ $\frac{kJ}{\text{mol}}$ ]	H-H <sub>298</sub> [ $\frac{kJ}{\text{mol}}$ ]	G [ $\frac{kJ}{\text{mol}}$ ]	$\Delta H_f$ [ $\frac{kJ}{\text{mol}}$ ]	$\Delta G_f$ [ $\frac{kJ}{\text{mol}}$ ]	$\log K_f$ [ - ]
GAS	298.15	50.575	269.500	269.500	141.500	0.000	61.149	141.500	89.821	-15.796
	300.00	50.663	269.813	269.501	141.594	0.094	60.650	141.467	89.501	-15.583
	400.00	53.770	284.877	271.534	146.837	5.337	32.887	132.967	72.719	-9.496
	500.00	55.226	297.049	275.459	152.295	10.795	3.770	126.718	58.313	-6.092
	600.00	56.031	307.196	279.927	157.861	16.361	-26.456	121.557	45.144	-3.930
	700.00	56.529	315.873	284.457	163.491	21.991	-57.620	117.258	32.752	-2.444
	800.00	56.863	323.445	288.868	169.162	27.662	-89.594	112.849	20.975	-1.370
	900.00	57.102	330.157	293.089	174.861	33.361	-122.281	-50.072	13.224	-0.767
	1000.00	57.283	336.183	297.103	180.580	39.080	-155.603	-49.857	20.245	-1.058
	1100.00	57.424	341.649	300.908	186.316	44.816	-189.498	-49.649	27.245	-1.294
	1200.00	57.540	346.651	304.514	192.064	50.564	-223.917	-49.446	34.227	-1.490
	1300.00	57.637	351.261	307.935	197.823	56.323	-258.816	-49.249	41.191	-1.655
	1400.00	57.720	355.535	311.184	203.591	62.091	-294.158	-49.058	48.141	-1.796
	1500.00	57.793	359.520	314.275	209.367	67.867	-329.913	-48.874	55.077	-1.918
	1600.00	57.859	363.252	317.221	215.150	73.650	-366.054	-48.696	62.002	-2.024
	1700.00	57.919	366.761	320.033	220.939	79.439	-402.556	-48.524	68.915	-2.117
	1800.00	57.975	370.074	322.722	226.733	85.233	-439.399	-48.359	75.818	-2.200
	1900.00	58.027	373.210	325.297	232.533	91.033	-476.565	-48.201	82.713	-2.274
	2000.00	58.076	376.187	327.768	238.339	96.839	-514.036	-48.050	89.599	-2.340

## References

Phase	H / S	$C_p$
GAS	Ja2	M11

128.264

## SULFUR (GAS)

S4[g]

Phase	T [K]	$C_p$ [ $\frac{J}{K mol}$ ]	S [ $\frac{J}{K mol}$ ]	$-(G-H298)/T$ [ $\frac{J}{K mol}$ ]	H [ $\frac{kJ}{mol}$ ]	H-H298 [ $\frac{kJ}{mol}$ ]	G [ $\frac{kJ}{mol}$ ]	$\Delta H_f$ [ $\frac{kJ}{mol}$ ]	$\Delta G_f$ [ $\frac{kJ}{mol}$ ]	log $K_f$ [ - ]
GAS	298.15	74.649	310.600	310.600	145.800	0.000	53.195	145.800	91.425	-16.017
	300.00	74.748	311.062	310.601	145.938	0.138	52.620	145.770	91.087	-15.860
	400.00	78.232	333.114	313.584	153.612	7.812	20.366	135.118	73.476	-9.595
	500.00	79.862	350.766	319.315	161.525	15.725	-13.858	127.423	58.867	-6.150
	600.00	80.762	365.413	325.812	169.561	23.761	-49.687	121.155	45.779	-3.985
	700.00	81.317	377.908	332.384	177.667	31.867	-86.869	116.022	33.627	-2.509
	800.00	81.688	388.792	338.769	185.818	40.018	-125.215	110.734	22.210	-1.450
	900.00	81.952	398.429	344.873	194.001	48.201	-164.586	-105.909	16.087	-0.934
	1000.00	82.150	407.074	350.668	202.206	56.406	-204.868	-105.044	29.596	-1.546
	1100.00	82.305	414.912	356.158	210.429	64.629	-245.974	-104.190	43.018	-2.043
	1200.00	82.430	422.079	361.357	218.666	72.866	-287.828	-103.347	56.363	-2.453
	1300.00	82.535	428.681	366.285	226.915	81.115	-330.371	-102.515	69.639	-2.798
	1400.00	82.624	434.801	370.963	235.173	89.373	-373.548	-101.693	82.850	-3.091
	1500.00	82.702	440.504	375.411	243.439	97.639	-417.317	-100.882	96.004	-3.343
	1600.00	82.772	445.844	379.648	251.713	105.913	-461.637	-100.081	109.103	-3.562
	1700.00	82.835	450.864	383.691	259.993	114.193	-506.475	-99.290	122.153	-3.753
	1800.00	82.893	455.600	387.556	268.280	122.480	-551.800	-98.511	135.157	-3.922
	1900.00	82.947	460.083	391.256	276.572	130.772	-597.586	-97.741	148.117	-4.072
	2000.00	82.998	464.339	394.805	284.869	139.069	-643.809	-96.982	161.037	-4.206

## References

Phase	H / S	$C_p$
GAS	Ja2	Mi1

## S5[g]

## SULFUR (GAS)

160.890

Phase	T [K]	$C_p$ [ $\frac{J}{(K mol)}$ ]	S J / (K mol)	$-(G-H298)/T$ [ $\frac{J}{(K mol)}$ ]	H [ $\frac{J}{(K mol)}$ ]	H-H298 [ $\frac{kJ}{mol}$ ]	G [ $\frac{kJ}{mol}$ ]	$\Delta H_f$ [ $\frac{kJ}{mol}$ ]	$\Delta G_f$ [ $\frac{kJ}{mol}$ ]	$\log K_f$ [ - ]
GAS	298.15	88.234	308.600	308.600	109.400	0.000	17.391	109.400	65.178	-11.419
	300.00	88.463	309.147	308.602	109.563	0.163	16.819	109.353	64.904	-11.801
	400.00	96.543	335.867	312.190	118.871	9.471	-15.476	95.754	50.911	-6.648
	500.00	100.329	357.863	319.193	128.735	19.335	-50.196	86.107	40.709	-4.253
	600.00	102.424	376.357	327.220	138.882	29.482	-86.932	78.374	32.401	-2.821
	700.00	103.721	392.250	335.402	149.194	39.794	-125.381	72.138	25.239	-1.888
	800.00	104.592	406.160	343.395	159.612	50.212	-165.316	65.757	18.966	-1.288
	900.00	105.217	418.517	351.068	170.104	60.704	-206.562	-204.783	19.279	-1.119
	1000.00	105.687	429.628	358.378	180.650	71.250	-248.978	-203.413	44.102	-2.804
	1100.00	106.058	439.720	365.321	191.238	81.838	-292.453	-202.036	68.786	-3.286
	1200.00	106.360	448.961	371.912	201.859	92.459	-336.894	-200.657	93.346	-4.063
	1300.00	106.614	457.485	378.171	212.508	103.108	-382.222	-199.278	117.790	-4.783
	1400.00	106.833	465.394	384.122	223.181	113.781	-428.370	-197.901	142.128	-5.303
	1500.00	107.026	472.771	389.789	233.874	124.474	-475.283	-196.527	166.368	-5.793
	1600.00	107.199	479.684	395.193	244.586	135.186	-522.909	-195.156	190.516	-6.220
	1700.00	107.358	486.188	400.356	255.314	145.914	-571.206	-193.791	214.579	-6.593
	1800.00	107.504	492.329	405.297	266.057	156.657	-620.135	-192.431	238.561	-6.923
	1900.00	107.641	498.145	410.032	276.814	167.414	-669.661	-191.077	262.469	-7.216
	2000.00	107.770	503.669	414.577	287.585	178.185	-719.754	-189.729	286.304	-7.478

## References

Phase	H / S	$C_p$
GAS	Ja2	Mi1



192.396

## SULFUR (GAS)

S6[g]

Phase	T [ K ]	$C_p$ [ ————— ]	S J / (K mol)	$-(G-H_{298})/T$ [ ————— ]	H [ ————— ]	H-H <sub>298</sub> [ ————— ]	G kJ / mol	$\Delta H_f$ [ ————— ]	$\Delta G_f$ [ ————— ]	log $K_f$ [ - ]
GAS	298.15	112.614	354.100	354.100	101.900	0.000	-3.675	101.900	53.670	-9.403
	300.00	112.853	354.797	354.102	102.109	0.209	-4.331	101.856	53.371	-9.293
	400.00	121.278	388.589	358.652	113.875	11.975	-41.561	86.134	38.103	-4.976
	500.00	125.213	416.122	367.481	126.221	24.321	-81.840	75.067	27.246	-2.846
	600.00	127.381	439.160	377.560	138.860	36.960	-124.636	66.251	18.564	-1.616
	700.00	128.715	458.904	387.804	151.670	49.770	-169.563	59.203	11.181	-0.834
	800.00	129.605	476.153	397.793	164.589	62.689	-216.334	51.963	4.805	-0.314
	900.00	130.236	491.457	407.366	177.582	75.682	-264.729	-272.283	6.280	-0.364
	1000.00	130.706	505.204	416.474	190.630	88.730	-314.574	-270.245	37.122	-1.939
	1100.00	131.072	517.679	425.116	203.720	101.820	-365.727	-268.209	67.760	-3.218
	1200.00	131.366	529.097	433.312	216.842	114.942	-418.074	-266.177	98.213	-4.275
	1300.00	131.609	539.622	441.090	229.991	128.091	-471.517	-264.152	128.497	-5.163
	1400.00	131.817	549.383	448.481	243.163	141.263	-525.973	-262.135	158.625	-5.918
	1500.00	131.997	558.484	455.515	256.354	154.454	-581.372	-260.127	188.609	-6.568
	1600.00	132.156	567.008	462.219	269.562	167.662	-637.651	-258.129	218.460	-7.132
	1700.00	132.300	575.024	468.621	282.785	180.885	-694.756	-256.141	248.185	-7.626
	1800.00	132.432	582.590	474.745	296.021	194.121	-752.641	-254.164	277.795	-8.061
	1900.00	132.553	589.753	480.611	309.271	207.371	-811.261	-252.199	307.294	-8.448
	2000.00	132.667	596.555	486.240	322.532	220.632	-870.579	-250.245	336.691	-8.793

## References

Phase	H / S	$C_p$
GAS	Ja2	Mi1

## S7[g]

## SULFUR (GAS)

224.462

Phase	T [K]	$C_p$ [ $\frac{J}{K \text{ mol}}$ ]	S [ $\frac{J}{K \text{ mol}}$ ]	$-(G-H_{298})/T$ [ $\frac{J}{K \text{ mol}}$ ]	H [ $\frac{kJ}{mol}$ ]	H-H <sub>298</sub> [ $\frac{kJ}{mol}$ ]	G [ $\frac{kJ}{mol}$ ]	$\Delta H_f$ [ $\frac{kJ}{mol}$ ]	$\Delta G_f$ [ $\frac{kJ}{mol}$ ]	log $K_f$ [ - ]
GAS	298.15	129.980	407.700	407.700	113.700	0.000	-7.856	113.700	59.047	-10.345
	300.00	130.304	408.505	407.702	113.941	0.241	-8.611	113.646	58.708	-10.222
	400.00	141.759	447.794	412.981	127.625	13.925	-51.493	95.261	41.449	-5.418
	500.00	147.119	480.067	423.271	142.098	28.398	-97.936	82.419	29.332	-3.064
	600.00	150.081	507.176	435.057	156.971	43.271	-147.334	72.261	19.732	-1.718
	700.00	151.910	530.458	447.063	172.077	58.377	-199.244	64.199	11.624	-0.867
	800.00	153.135	550.828	458.787	187.333	73.633	-253.329	55.936	4.666	-0.305
	900.00	154.010	568.918	470.037	202.693	88.993	-309.334	-322.150	6.843	-0.397
	1000.00	154.667	585.180	480.752	218.128	104.428	-367.052	-319.560	43.260	-2.260
	1100.00	155.181	599.946	490.927	233.621	119.921	-426.320	-316.963	79.416	-3.771
	1200.00	155.598	613.467	500.583	249.161	135.461	-487.000	-314.362	115.335	-5.020
	1300.00	155.947	625.936	509.753	264.739	151.039	-548.978	-311.762	151.038	-6.069
	1400.00	156.246	637.504	518.469	280.349	166.649	-612.157	-309.166	186.541	-6.960
	1500.00	156.509	648.293	526.769	295.987	182.287	-676.453	-306.574	221.858	-7.726
	1600.00	156.744	658.402	534.683	311.650	197.950	-741.793	-303.989	257.002	-8.390
	1700.00	156.957	667.911	542.243	327.335	213.635	-808.114	-301.412	291.985	-8.972
	1800.00	157.154	676.888	549.476	343.040	229.340	-875.358	-298.843	326.817	-9.484
	1900.00	157.337	685.390	556.408	358.765	245.065	-943.475	-296.283	361.506	-9.938
	2000.00	157.509	693.464	563.061	374.507	260.807	-1012.421	-293.732	396.060	-10.344

## References

Phase	H / S	$C_p$
GAS	Ja2	Mi1

256.528

## SULFUR (GAS)

S8[g]

	Phase	T [ K ]	$C_p$ [ ————— ]	S J / ( K mol )	$-(G-H_{298})/T$ [ ————— ]	H [ ————— ]	H-H <sub>298</sub> kJ / mol	G [ ————— ]	$\Delta H_f$ [ ————— ]	$\Delta G_f$ [ ————— ]	log $K_f$ [ - ]
345	GAS	298.15	155.818	430.310	430.310	100.420	0.000	-27.877	100.420	48.583	-8.512
222		300.00	156.135	431.275	430.313	100.709	0.289	-28.674	100.371	48.262	-8.403
413		400.00	167.304	477.950	436.601	116.960	16.540	-74.220	79.973	31.999	-4.179
064		500.00	172.523	515.907	448.788	133.980	33.560	-123.974	65.775	21.475	-2.243
718		600.00	175.401	547.639	462.692	151.388	50.968	-177.195	54.576	13.738	-1.196
867		700.00	177.173	574.821	476.816	169.024	68.604	-233.351	45.735	7.641	-0.570
305		800.00	178.355	598.561	490.581	186.804	86.384	-292.045	36.636	2.807	-0.183
397		900.00	179.195	619.619	503.771	204.683	104.263	-352.974	-395.137	8.371	-0.486
260		1000.00	179.822	638.533	516.318	222.635	122.215	-415.898	-391.865	53.030	-2.770
771		1100.00	180.310	655.696	528.220	240.643	140.223	-480.622	-388.596	97.361	-4.623
020		1200.00	180.703	671.402	539.507	258.694	158.274	-546.988	-385.332	141.395	-6.155
069		1300.00	181.029	685.879	550.217	276.781	176.361	-614.862	-382.077	185.157	-7.440
060		1400.00	181.308	699.305	560.392	294.898	194.478	-684.129	-378.832	228.669	-8.532
726		1500.00	181.550	711.823	570.075	313.042	212.622	-754.692	-375.600	271.949	-9.470
090		1600.00	181.765	723.547	579.304	331.208	230.788	-826.467	-372.380	315.014	-10.284
072		1700.00	181.959	734.572	588.117	349.394	248.974	-899.379	-369.174	357.877	-10.996
084		1800.00	182.137	744.978	596.545	367.599	267.179	-973.361	-365.982	400.553	-11.624
038		1900.00	182.301	754.830	604.619	385.821	285.401	-1048.356	-362.805	443.051	-12.180
044		2000.00	182.455	764.184	612.365	404.059	303.639	-1124.310	-359.643	485.383	-12.677

## References

Phase	H / S	$C_p$
GAS	Ja2	Mi1