Experimental Determination of the H₂SO₄/HNO₃/H₂O Phase Diagram in Regions of Stratospheric Importance

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Table 1S. Experimentally determined melting points in the ternary system.

Wt % H₂SO₄	Wt % HNO₃	Wt % H₂O	Final Melt (K)
3.31	14.93	81.76	256.47
3.31	14.93	81.76	257.49
4.70	24.73	70.57	233.84
4.70	24.73	70.57	234.66
4.70	24.73	70.57	234.64
5.10	0.00	94.90	271.62
5.00	5.01	89.99	266.63
5.01	5.15	89.84	267.40
5.00	10.03	84.97	261.06
5.00	10.03	84.97	260.17
5.00	14.88	80.12	254.21
4.99	19.96	75.05	244.87
4.99	19.96	75.05	244.91
5.00	30.11	64.89	235.12
5.00	30.11	64.89	234.78
5.01	35.05	59.94	243.46
5.01	35.05	59.94	242.99
4.99	40.11	54.90	250.49
4.99	40.11	54.90	250.31
4.99	40.11	54.90	250.22
5.02	44.86	50.12	255.29
5.02	44.86	50.12	255.57
5.00	50.11	44.89	256.21
5.00	50.11	44.89	256.83
8.33	4.39	87.28	264.79
8.33	4.39	87.28	264.36
9.24	16.12	74.64	244.53
9.24	16.12	74.64	244.71
10.20	0.00	89.80	268.25
10.01	4.99	85.00	263.53
10.00	9.97	80.03	253.83
10.00	9.97	80.03	254.65
10.01	14.92	75.07	245.87
9.97	19.85	70.18	235.82
10.07	20.35	69.58	237.59
9.98	24.59	65.43	232.22
10.10	25.54	64.36	233.02

9.97	29.91	60.12	240.35
10.02	30.36	59.62	242.30
10.02	30.36	59.62	242.30
9.98	34.97	55.05	248.08
9.98	34.97	55.05	249.07
9.99	39.96	50.05	253.48
9.99	39.96	50.05	253.56
9.99	39.96	50.05	253.67
10.01	45.19	44.80	253.69
10.01	45.19	44.80	253.91
11.58	20.17	68.25	233.22
11.58	20.17	68.25	230.11
14.01	7.40	78.59	252.69
14.01	7.40	78.59	252.85
15.34	0.00	84.66	263.51
15.25	5.09	79.66	254.89
15.25	5.09	79.66	254.48
14.99	9.96	75.05	245.06
14.99	9.96	75.05	245.56
14.98	14.96	70.06	230.73
14.98	14.96	70.06	230.72
14.75	19.69	65.56	230.35
14.83	19.79	65.38	230.19
14.85	24.75	60.40	239.52
15.08	25.25	59.67	239.06
14.98	29.94	55.08	246.55
14.98	29.94	55.08	246.45
14.98	34.80	50.22	251.79
14.98	34.80	50.22	251.70
14.93	39.91	45.16	252.04
14.93	39.91	45.16	251.90
15.13	17.63	67.24	226.78
15.13	17.63	67.24	227.10
17.41	13.22	69.37	230.29
17.41	13.22	69.37	228.50
17.41	13.22	69.37	228.33
18.05	13.48	68.47	228.33
18.05	13.48	68.47	228.05
19.34	14.50	66.16	224.55
19.34	14.50	66.16	224.45
20.13	0.00	79.87	257.21
19.95	3.99	76.06	247.75
19.95	3.99	76.06	248.43
19.75	10.34	69.91	230.61
20.11	10.12	69.77	230.77
19.86	14.83	65.31	227.41

20.14	19.94	59.92	237.21
20.02	20.05	59.93	235.92
19.99	25.08	54.93	244.76
19.99	25.08	54.93	245.13
19.99	25.08	54.93	244.90
19.97	30.04	49.99	249.37
19.97	30.04	49.99	249.33
19.95	34.89	45.16	250.20
19.95	34.89	45.16	250.20
19.95	34.89	45.16	249.73
21.04	6.42	72.54	237.89
21.04	6.42	72.54	238.19
25.19	0.00	74.81	248.45
25.03	3.12	71.85	237.33
25.03	3.12	71.85	236.58
25.02	5.06	69.92	229.91
25.02	5.06	69.92	228.60
24.61	6.40	68.99	225.72
24.61	6.40	68.99	220.38
24.61	6.40	68.99	225.13
25.01	10.12	64.87	223.85
25.01	10.12	64.87	223.99
25.01	10.12	64.87	223.93
24.98	14.94	60.08	233.03
25.02	15.08	59.90	234.11
25.02	15.08	59.90	234.74
24.97	20.02	55.01	242.13
24.97	20.02	55.01	241.93
25.04	24.89	50.07	246.61
25.04	24.89	50.07	246.28
25.04	24.89	50.07	246.67
24.98	30.01	45.01	247.50
24.98	30.01	45.01	247.21
26.16	3.19	70.65	234.61
26.16	3.19	70.65	232.70
27.92	5.37	66.71	219.45
27.92	5.37	66.71	218.90
29.92	0.00	199.71	239.04
29.92	0.00	70.08	239.04
30.14	1.39	68.47	221.97
30.14	2.49	67.37	220.40
30.14	2.49	67.37	220.85
29.99	5.03	64.98	217.42
29.99	5.03	64.98	216.49
30.11	10.00	59.89	229.36
30.11	10.00	59.89	229.37

30.01	14.87	55.12	222.04
29.98	19.97	50.05	242.88
29.98	19.97	50.05	242.71
29.65	24.77	45.58	244.07
29.65	24.77	45.58	243.93
31.93	1.00	67.07	222.19
31.93	1.00	67.07	221.93
32.00	0.50	67.50	224.36
32.00	0.50	67.50	224.23
35.56	0.00	64.44	208.93
35.00	10.04	54.96	231.92
35.00	10.04	54.96	232.38
34.91	15.09	50.00	238.47
34.91	15.09	50.00	238.10
40.12	0.00	59.88	211.83
40.12	0.00	59.88	212.15
40.33	5.09	54.58	221.39
40.33	5.09	54.58	221.74
40.35	10.17	49.48	232.73
39.03	14.44	46.53	236.07
44.40	4.91	50.69	233.83
44.40	4.91	50.69	233.78
44.40	4.91	50.69	233.66
47.51	2.63	49.86	237.77
50.24	5.10	44.66	242.88
52.74	2.73	44.53	244.86
0.00	55.05	44.95	256.60
0.00	54.00	46.00	251.83
0.00	52.04	47.96	255.75
0.00	50.13	49.87	254.72
0.00	50.04	49.96	255.43
0.00	45.10	54.90	250.38
0.00	45.03	54.97	251.31
0.00	40.69	59.31	245.44
0.00	40.08	59.92	242.16
0.00	35.10	64.90	232.93
0.00	32.96	67.04	233.84
0.00	29.87	70.13	236.48
0.00	29.86	70.14	237.60
0.00	25.09	74.91	245.59
0.00	25.09	74.91	245.09
0.00	19.85	80.15	254.31
0.00	19.85	80.15	253.84
0.00	19.15	80.85	255.40
0.00	18.31	81.69	256.68
0.00	16.97	83.03	258.22

0.00	16.08	83.92	259.10
0.00	15.33	84.67	260.11
0.00	15.11	84.89	260.11
0.00	10.05	89.95	265.41
0.00	10.03	89.98	264.84
0.00	4.97	95.03	270.48
0.00	4.96	95.04	270.22
0.00	0.00	100.00	273.34
2.20	0.00	97.80	273.62
5.07	0.00	94.93	271.32
5.10	0.00	94.90	271.62
7.70	0.00	92.30	269.50
10.20	0.00	89.80	268.25
10.51	0.00	89.49	268.20
12.75	0.00	87.25	265.62
15.27	0.00	84.73	263.15
15.34	0.00	84.66	263.51
17.60	0.00	82.40	260.35
20.13	0.00	79.87	257.21
20.44	0.00	79.56	257.09
22.45	0.00	77.55	250.63
22.64	0.00	77.36	252.15
22.64	0.00	77.36	251.40
25.19	0.00	74.81	248.45
25.48	0.00	74.52	247.82
27.54	0.00	72.46	239.71
27.69	0.00	72.31	238.15
29.92	0.00	70.08	239.04
31.32	0.00	68.68	230.57
31.32	0.00	68.68	231.81
32.60	0.00	67.40	221.50
32.60	0.00	67.40	224.71
35.09	0.00	64.91	216.00
35.09	0.00	64.91	205.94
35.09	0.00	64.91	207.01