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NBS REPORT

8808

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A BIBLIOGRAPHY OF REFERENCES FOR THE THERMOPHYSICAL PROPERTIES
OF
HELIUM-4, HYDROGEN, DEUTERIUM, HYDROGEN DEUTERIDE, NEON, ARGON,
NITROGEN, OXYGEN, CARBON DIOXIDE, METHANE, ETHANE, KRYPTON,
AND
REFRIGERANTS 13, 14, AND 23

Cryogenic Data Center



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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
BOULDER LABORATORIES
Boulder, Colorado

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(6) A BIBLIOGRAPHY OF REFERENCES FOR THE THERMOPHYSICAL PROPERTIES
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HELIUM-4, HYDROGEN, DEUTERIUM, HYDROGEN DEUTERIDE, NEON, ARGON,
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AND
REFRIGERANTS 13, 14, AND 23

Cryogenic Data Center

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~~U.S. DEPARTMENT OF COMMERCE~~

(5) NATIONAL BUREAU OF STANDARDS,

13-1-1965

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A BIBLIOGRAPHY OF REFERENCES FOR THE THERMOPHYSICAL PROPERTIES
OF
HELIUM-4, HYDROGEN, DEUTERIUM, HYDROGEN DEUTERIDE, NEON, ARGON,
NITROGEN, OXYGEN, CARBON DIOXIDE, METHANE, ETHANE, KRYPTON,
AND
REFRIGERANTS 13, 14, AND 23¹

Introduction

This bibliography represents a search of the information storage and retrieval system of the Cryogenic Data Center. The storage and retrieval system contains approximately 11,000 references to properties of materials at cryogenic temperatures. The bibliography contains references to the following fluids and their mixtures: helium-4, normal hydrogen, parahydrogen, orthohydrogen, deuterium and hydrogen deuteride, neon, argon, nitrogen, oxygen, carbon dioxide, methane, ethane, krypton, and refrigerants 13, 14, and 23. The properties which were searched for are: PVT data, compressibility, expansivity, vapor pressure, melting line, triple point, boiling point, critical point, solid transition points, phase diagram, latent heats, heat capacity, enthalpy, entropy, velocity of sound, thermal conductivity, viscosity, equations of state, Joule-Thomson coefficient, and surface tension.

The Cryogenic Data Center is engaged in maintaining an awareness of the world's literature on the properties of materials at cryogenic temperatures and in particular on the properties of the cryogenic fluids. Other fluids of some cryogenic interest are also noted for the system but to a lesser degree of exhaustivity; therefore, the references to the properties of carbon dioxide, ethane, krypton and refrigerants 13, 14, and 23 represent a smaller proportion of the world's literature than for the predominantly cryogenic fluids.

The bibliography contains an index which lists, for each fluid, entries for all of the properties mentioned above. The references are arranged in numerical order by accession number. Each reference is followed by the indexing information used in the storage and retrieval system. The first of this is the characteristic coding which is explained on page iv. This is followed by the coordinate indexing terms used for that reference.

¹ This bibliography was made for Air Products and Chemicals, Inc., Allentown, Pennsylvania, for use on a government contract.

CHARACTERISTIC CODING DESIGNATIONS for CRYOGENIC LITERATURE

Categories

- A-1: Books, Reviews, Surveys, Bibliographies, Proceedings, etc.
- A-2: Properties of Solids
- A-3: Properties of Fluids
- A-4: Solid State, Theoretical, Phenomena, Basic Physics, etc.
- A-5: Cryogenic Techniques, Tricks, Unique Methods, Unusual Procedures, etc.
- A-6: Cryogenic Processes, Heat Transfer, Purification, Fluid Flow, Liquefaction, Safety Procedures, etc.
- A-7: Laboratory Equipment and Instrumentation
- A-8: Cryogenic Equipment
- A-9: General Interest Literature, News, Management, Programs, Accidents, Miscellaneous

Language

- B-1: English, B-2 French, B-3 German, B-4 Dutch, B-5 Italian, B-6 Japanese, B-7 Russian, B-8 Spanish, B-9 Other

Cryogenic Interest

- C-1: Cryogenic Temperature Range (0 to 130°K where not specifically designated in C-4 through C-7 below)
- C-2: Cryogenic Interest but not in Cryogenic Temperature Range (except where designated C-8)
- C-3: Not of Direct Cryogenic Interest
- C-4: Below 1°K
- C-5: 1 to 10°K
- C-6: 10 to 50°K
- C-7: 50 to 130°K
- C-8: 130 to 300°K

Form of Data (Omitted where not pertinent)

- D-1: Numerical Data Included
- D-2: No Data
- D-3: Graphical Data Only

Type of Article (Omitted where not pertinent)

- E-1: Experimental, Experimental and Theoretical, Original Work
- E-2: Review Article, Compilation, Correlation, Discussion
- E-3: Theoretical Only, No Specific Data Given

Availability of Document (suggested source)

- F-1: Cryogenic Engineering Laboratory
- F-2: National Bureau of Standards
- F-3: Office of Technical Services (OTS)
- F-4: U.S. Government Printing Office
- F-5: Armed Forces Technical Information Agency (ASTIA)
- F-6: Technical Libraries Generally (Published Literature)
- F-7: Technical Libraries - Special (Foreign Literature - Special Periodicals)
- F-8: Company Bulletins and Reports (Universities, Research Labs., etc.)
- F-9: Other (Patents, Theses, Translations, etc.)

Form of Document

- G-1: Published - Open Literature, Journals, etc.
- G-2: Books, Proceedings
- G-3: Company Periodicals (includes University, Foreign Gov't, State Institutions, etc.)
- G-4: Government Periodicals (U.S.)
- G-5: Company Reports, Private, Public, Gov't Contract (includes Foreign Gov't Reports)
- G-6: Government Reports (U.S.)
- G-7: University Theses, Doctoral Dissertations, Master's Theses
- G-8: Patents (U.S. and Foreign)
- G-9: Other (Unpublished, Informal, Preprints, Letters, Notes, Term Papers, Talks, etc.)

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HELIUM 4 OR UNSPECIFIED HELIUM

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)

128	203	211	378	420	429	473	479	487	534
610	625	690	700	737	782	801	836	982	1520
1689	2020	2171	2772	3498	3754	4900	5080	5139	5345
5563	5567	5572	5614	5714	5738	5869	5870	5904	5946
5982	6091	6193	6279	6296	6317	6326	6328	6342	6357
6565	6644	6713	6718	6773	6774	6788	6803	6804	6926
6953	7017	7324	7355	7356	7362	7505	8044	8703	8704
8732	8758	9034	9076	9154	9249	9409	9572	9729	9731
9732	9768	10246	10293	10329	10647	10677	10991	11005	11133
11138	11139	11140	11238	11245	11246	11276	11280	11429	11802
11881	11960	11986	11991	12018	12034	12074	12501	12502	12701
12704	12710	12725	12739	12795	12829	12895	13036	13114	13250
13259	13292	13420	13465	13623	13626	13639	13643	13646	13703
13882	14394	14963	14990	15065	15255	15411	15653	15993	15994
16073	16099	16233	16292	16294	16304	16339	16365	16374	16404
16696	16835	16836	16889	16891	17960	18047	18132	18172	18179
19117	19119	19180	19705	19709	19711	20647	21078	21337	21414
22010	22807	22933	22939	22955	23065	23170	23171	23399	24286
24414	25268								

COMPRESSIBILITY

378	442	487	534	650	826	1174	3754	5589	5590
5904	6091	6765	6776	6995	7297	7355	8044	11238	11802
12070	12074	13497	14603	15411	18047	18179	20896	23165	24286
24940	25082								

EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)

378	411	625	632	3754	5112	5114	5640	5946	6193
6765	7297	7324	7355	9076	9569	10329	10699	11770	11881
12018	12070	12074	12689	13036	13128	13129	13465	13536	15065
15993	16233	16365	18047	18179	20065	20896	21337	23171	

VAPOR PRESSURE

425	480	610	700	817	2020	2171	3351	3429	3671
5328	5368	5596	5622	5816	5842	5865	5963	6004	6010
6120	6317	6326	7424	7505	8285	9249	9269	9409	10744
10760	10991	11246	11318	11429	12018	12204	12422	12710	13130
13161	13228	13359	13466	13625	13822	13903	13925	14072	14073
14207	14394	14718	14797	14798	14990	16293	16339	16340	16356
16744	16791	18126	18172	19287	19410	21135	22010	22832	22955
22966	24286	24840							

MELTING LINE DATA

211	490	986	1594	2171	2772	5644	5650	5721	5869
5870	5871	5915	5946	5955	6022	6057	6120	6222	6279
6300	9249	10030	10246	11153	11770	11881	12018	12034	12070
12158	12204	13036	13161	13735	14423	14621	15411	16290	16294
16321	16362	16363	16365	16374	16404	16871	17275	18088	19448
19776	20065	22009	23161	23165	23170	23171	24286		

TRIPLE POINT
NONE

HELIUM (CONT.)

BOILING POINT

610	5622	6326	6334	11001	12034	12204	13161	13903	14072
14423	14990	15708							

CRITICAL POINT

542	562	700	737	940	5564	5567	5572	5808	5865
6049	6105	6222	6326	6342	8044	8285	9249	9501	10194
11136	12034	12204	14798	14990	15024	16375	16404	17336	17625
18042	21134	21135	25062						

SOLID TRANSITION POINTS

15329	16703	17607	17935	17945	18075	21802	21990	23165	23171
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PHASE DIAGRAM

5370	5871	6120	10030	12070	16233	16294	16338	22299	23165
24286									

LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)

535	610	1595	2020	3351	5368	5970	5572	5697	5869
5870	5928	6020	6279	6300	6317	6337	6357	6953	8285
9249	9269	9409	11335	12018	12034	12204	12710	13822	14394
14990	15064	16233	16339	16404	18179	19287	20647	22009	22933
22939	22955	24286							

HEAT CAPACITY

34	128	204	375	435	446	610	625	678	692
700	710	736	877	902	1565	1778	2020	2171	3272
3867	5114	5370	5432	5489	5572	5682	5693	5714	5726
5757	5814	5963	5968	5972	5978	6105	6112	6120	6148
6217	6221	6253	6257	6266	6279	6300	6317	7424	7505
7835	7837	8698	9249	9409	9501	9569	9729	9731	9768
10329	10699	10882	10913	10963	11068	11276	11716	11770	11802
11986	11991	12018	12074	12689	12792	13292	13296	13420	13641
13759	13822	13903	14394	14990	15065	15419	15740	16124	16125
16233	16283	16288	16317	16366	16367	16404	16703	17144	17166
18026	18179	18844	18948	19117	19186	19709	20550	21337	22007
22299	22933	23171	23179	23270	23171	23558	23628	24286	24326
25065	25604								

ENTHALPY

736	776	2020	5080	6257	7505	9409	9729	9768	10328
10882	11276	11429	11921	12501	12502	12792	12795	13259	13292
13703	15740	17166	23791	25065					

ENTROPY

128	378	625	734	776	877	902	942	1565	2020
3867	5080	5489	5512	5515	5693	5963	5968	6057	6120
6257	6278	6296	7505	8285	9409	9729	9731	10030	10703
10882	10991	11276	11716	11881	11921	11986	12792	12795	13259
13292	13703	14394	15419	15740	16337	16365	16366	16375	16516
17166	19709	22299	23558	24286	25062	25604			

HELIUM (CONT.)

VELOCITY OF SOUND

34	378	678	691	692	710	812	826	837	952
953	954	955	1054	1077	1106	1154	1182	1393	1464
1465	1467	1549	1565	2171	3729	5109	5110	5114	5342
5353	5416	5572	5654	5757	5759	5813	5814	5929	6155
6175	6176	6812	7035	7835	7837	7839	7841	9249	9501
9768	10030	10794	11276	11414	12642	12704	13296	13431	13632
13679	14325	14394	14412	14603	15021	15326	15948	16233	17607
17935	18033	18736	18851	19117	20585	21123	22299	24286	24609
24610	24611	24940							

THERMAL CONDUCTIVITY

378	418	446	580	592	617	686	693	714	724
932	935	999	1295	1464	1870	2020	2171	3479	5080
5084	5095	5138	5333	5370	5376	5385	5432	5461	5471
5472	5520	5572	5573	5650	5686	5696	5760	5784	5889
5910	5911	5912	5959	5992	6005	6031	6068	6070	6106
6151	6164	6217	6323	6332	6738	8024	8313	8507	8692
8700	9249	9409	9484	9697	10461	10593	10699	10731	10738
10913	10914	11035	11038	11042	11068	11276	11415	11429	11500
11696	11847	11987	12018	12068	12353	12788	12895	12977	13081
13420	13633	13636	13639	13647	14349	14418	14480	14622	14729
14730	14732	14734	14735	14761	14775	14990	15144	15414	15451
15992	16000	16152	16217	16233	16296	16303	16317	16404	16502
16755	16878	16879	16886	17393	17454	17558	17638	17875	17994
18001	19179	20390	20431	20923	20975	22429	22613	22812	22931
23138	22299	23160	23169	23628	24286	24312	25052	25237	25261
25293									

VISCOSITY

374	378	418	429	446	458	471	530	588	615
700	877	903	938	940	948	962	982	999	1106
1210	1246	2020	2137	2171	3284	3948	5080	5084	5089
5094	5095	5132	5133	5134	5370	5432	5507	5573	5649
5703	5706	5714	5749	5807	5920	5959	5981	5982	6054
6061	6120	6131	6151	6154	6164	6182	6339	6340	6344
6729	6738	7400	8024	8137	8645	8700	8758	9249	9409
9484	9607	10579	10619	10626	10669	10703	10731	10744	10747
10749	10753	10913	11035	11036	11068	11118	11276	11429	11487
11500	11696	11745	11831	11832	12018	12631	12977	13113	13114
13270	13420	13623	13624	13628	13636	13639	13643	13646	13647
14349	14394	14480	14597	14990	15024	15087	15376	15414	15416
15653	15991	15995	16152	16233	16296	16302	16317	16888	16889
17145	17393	17538	17558	17721	17964	17998	17999	18000	18015
18055	18994	19072	19117	19180	19280	19286	19617	19990	20342
20390	20975	21305	22299	22497	23031	23310	23628	24286	24300
24311	24312	24320	24326	24542	25000	25055	25237	25293	

NORMAL OR UNSPECIFIED HYDROGEN

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)

203	318	427	453	486	487	493	494	517	575
619	634	649	700	727	728	737	801	852	853
1130	1152	1603	2020	2208	3498	3525	3754	4900	5118
5120	5122	5123	5139	5215	5366	5429	5522	5523	5542
5564	5567	5665	5904	6064	6069	6080	6091	6149	6191
6193	6231	6318	6326	6328	6342	6368	6415	6421	6565
6621	6713	6718	6768	6802	6840	6912	6914	6926	6928
7010	7103	7146	7355	7362	7395	7558	7589	7611	7613
7681	7748	7852	7889	8044	8096	8118	8401	8703	8715
8716	8717	8719	8732	8758	8762	9008	9409	9444	9492
10437	10647	10677	10742	10748	10839	11005	11043	11114	11137
11238	11242	11245	11280	11346	11429	11625	11690	11709	11924
12018	12034	12194	12258	12381	12485	12540	12704	12725	12791
12817	12854	12895	13036	13250	13537	13546	13558	13743	13781
13782	13832	13923	14023	14487	14535	14794	14800	14989	14990
15022	15073	15255	15490	15710	16097	16098	16099	16106	16107
16142	16213	16295	16308	16376	16378	16447	16876	16883	16891
17018	17021	17398	17960	17965	18121	18167	18512	19187	19613
19645	19652	19697	19709	19896	20642	20645	20646	20647	21078
21079	21132	21136	21794	21824	21853	22241	22243	22666	22920
23065	23393	23598	23790	23817	24116	24322	24336	24782	25268
25355	25544	25559							

COMPRESSIBILITY

34	442	487	728	1152	1174	2728	3754	5118	5719
5756	5879	5904	6014	6091	6765	6768	6776	6995	7297
7355	7474	8044	8207	8208	9963	11238	11613	12357	12820
13558	13780	14990	15022	15481	16295	17018	19645	20896	20897
22666	25355								

EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)

487	728	1152	3754	5215	6149	6191	6193	6765	7297
7355	7460	8118	8717	9492	13036	13558	14800	15679	17018
17401	19687	20896	21136	22666	23172	25355			

VAPOR PRESSURE

444	453	454	493	634	700	2020	2040	2928	3405
5564	5677	5679	6016	6085	6235	6250	6326	6368	6376
6378	6759	7396	8366	8695	9409	10790	11043	11134	11247
11318	11429	12018	12166	12204	12485	13161	13463	13466	13537
13704	13770	13779	13914	13983	14329	14331	14680	14718	14799
14955	14957	14959	14990	15009	15024	15073	15490	16076	16219
16291	16376	16425	16868	18121	18582	18947	19187	19287	19410
19694	19721	21408	22243	22602	22687	23435	23478	23790	24274
24502	24745	24782	25096	25355					

MELTING LINE DATA

421	475	638	2169	5118	5449	6080	6300	6368	6421
11241	12018	12034	12204	13021	13036	13161	13735	13831	13923
14130	14423	14621	14989	16284	16286	16289	16364	16376	16425
18567	18947	19448	19652	21136	23172	23790	25544		

HYDROGEN (CONT.)

ENTHALPY

419	453	463	520	616	658	728	746	848	849
850	854	856	1152	2020	2208	5493	5921	6063	6069
6257	6368	6393	6560	6838	8096	9409	10218	10742	10793
10882	10958	11041	11102	11271	11283	11429	11921	11929	12018
12161	12540	12637	13047	14023	15490	15739	15740	15818	16213
16447	17166	17398	18086	21750	21794	21853	23482	24116	24314
24782									

ENTROPY

224	275	453	508	520	528	561	616	657	658
728	746	848	849	850	854	856	1152	2020	2040
3867	5512	5990	6063	6069	6224	6257	6276	6281	6292
6368	6560	6617	6838	7396	8096	8130	9409	9444	9819
10218	10742	10882	11041	11102	11271	11283	11921	12161	12540
13047	13537	13737	14023	15739	15740	16375	16447	17166	17398
17833	18121	19709	21016	21136	21750	21794	21853	23790	24116
25355									

VELOCITY OF SOUND

34	453	552	595	678	720	1106	2274	3729	4591
5600	5756	5759	5810	5813	6161	6177	6347	6363	6816
6838	7070	7128	7262	7314	7387	7747	7839	7841	7843
7896	7916	8695	9444	9501	9963	10682	11709	12485	12611
12704	13099	13296	13558	14990	15021	16569	16877	17018	18121
18501	18851	19645	21794	21853	22052	22318	23790	24116	24318
24782	25355	25559							

THERMAL CONDUCTIVITY

446	453	592	604	617	628	654	693	695	724
765	999	2020	5093	5095	5432	5494	5501	5504	5528
5573	5727	5825	5889	5911	5959	6011	6027	6031	6068
6071	6151	6164	6169	6174	6217	6270	6271	6275	6318
6323	6368	6738	7010	8313	8384	8692	9244	9409	9435
9444	10218	10461	10548	10731	10748	10880	10913	10914	11010
11043	11291	11374	11429	11540	11669	11789	12018	12485	12489
12842	12895	12977	13476	13492	14418	14422	14480	14990	15144
15490	15525	15634	15651	16000	16296	16317	16502	17393	17454
17638	17994	18001	18490	18843	19179	20431	23787	23790	24312
24782	25237	25293	25293	25355					

HYDROGEN (CONT.)

VISCOSITY

207	374	446	450	453	461	530	546	604	615
618	700	940	962	995	999	1106	2020	3284	3948
5093	5094	5095	5132	5432	5507	5573	5600	5643	5703
5706	5711	5807	5825	5888	5892	5896	5959	6011	6061
6064	6110	6131	6151	6154	6164	6274	6275	6318	6334
6344	6368	6372	6738	7010	8293	8435	8645	8700	8758
9250	9409	9444	10218	10436	10539	10620	10623	10625	10731
10747	10748	10749	10753	10782	10880	10913	11036	11429	11487
11789	11806	11832	11899	11924	12018	12166	12631	12977	13113
13270	13476	13492	14272	14480	14622	14978	14990	15024	15087
15490	15525	16296	16317	17386	17393	17538	17962	17964	17999
18000	18917	18951	19280	19286	19617	20010	20011	20389	21305
21757	22249	22446	22496	23173	23448	23790	24007	24300	24311
24312	24313	24322	24326	24782	24925	25041	25055	25293	

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

442	453	494	517	542	565	575	634	669	727
801	995	1152	1845	3276	3541	5118	5139	5542	5759
5808	5967	6177	6191	6194	6230	6231	6325	6328	6334
6368	6376	6378	6415	6718	6733	6776	6832	6926	6927
6928	6929	6995	7278	7466	7589	7611	7681	7748	7852
8044	8107	8314	8331	8399	8435	8645	8732	8760	8762
8776	9481	9533	9545	10437	10647	10677	10846	10989	11005
11114	11136	11242	11245	11280	11346	11574	11899	12420	12424
12617	12621	12637	12725	12791	12855	13463	14487	14535	14621
14622	14625	14766	15024	16098	16200	16213	16308	16378	16832
16891	17336	17960	17965	18121	18178	18512	18839	18852	18917
19613	19697	19709	20642	20897	21078	21132	21794	22666	22920
23817	24007	24756	24914	25268	25355	25537			

JOULE-THOMSON EFFECT

419	424	463	464	622	3276	6191	6288	6838	10194
10677	10793	10846	11457	11690	13737	14232	15255	18026	18095
18121	18526	18949	21794	21853	22237				

SURFACE TENSION

2020	3541	9409	9444	10893	12018	12914	13537	13824	15490
16295	16834	19704	20647	23183	23186	23790	24780	24782	25058

6084	6149	8118	8401	8732	9444	10930	11625	12194	12485
12540	12596	13420	13537	13558	14129	14990	15121	15358	15359
15490	15709	16447	17018	17442	18502	19187	19645	19652	20900
20943	21136	21747	21872	22243	23790	25302	25316	25544	

9963 13558 14990 17018 19645

6149 8118 13558 17018 21136

454	2040	6235	12485	12596	12817	12830	13537	13704	13983
14990	15359	15490	16232	19187	20297	21754	22243	23435	23790
24731	25302								

14130	15358	19652	20900	21136	21747	21872	23790	25302	25544
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454	2040	8314	8325	9219	9490	9503	12830	13537	14130
14990	19187	21754	22243	23790	25302				

740	2040	6013	6235	8118	9490	9503	9624	12830	14990
19187	21754	22243	23435	23790	25302				

740	6013	6084	9624	12485	13537	14990	15359	19187	20900
21134	22243	23790							

NONE

NONE

426	9219	9444	9624	12485	12596	12830	14990	15359	15490
16232	17442	19187	19652	20900	21747	21872	22428	23790	24731
25302	25544								

PARAHYDROGEN (CONT.)

HEAT CAPACITY

204	426	740	2040	5437	6013	6322	6416	6617	9219
9444	9503	10218	10930	11271	12161	12197	12485	12596	13420
13537	13558	13696	14129	14990	15490	16142	16163	16232	17018
17442	18502	19645	20900	21136	23790	24731	25302		

ENTHALPY

10218	10930	11271	12161	12540	12596	15490	16163	16447	18502
23482	25302								

ENTROPY

2040	6013	6617	9219	10218	10930	11271	12161	12540	12596
12830	13537	16163	16447	17442	21136	23790			

VELOCITY OF SOUND

552	3729	6347	9963	12485	13558	14990	15021	17018	19645
20900	22052	23790							

THERMAL CONDUCTIVITY

5528	8384	9444	9988	10218	11789	12485	13420	13476	13645
14422	14990	15490	18502	21747	23790	24731	25302		

VISCOSITY

461	1511	6232	8293	10218	10539	11789	11899	13420	13476
14990	15490	18502	23790	24731	25302				

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

6232	8314	8732	8776	11574	11776	11899	12817	15359	20900
20943									

JOULE-THOMSON EFFECT

20900

SURFACE TENSION

13537	15490	23790	24028	24731					
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ORTHOHYDROGEN

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)
6368

COMPRESSIBILITY
NONE

EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)
NONE

VAPOR PRESSURE
2040 6368 13983 16232

MELTING LINE DATA
6368

TRIPLE POINT
2040 8325

BOILING POINT
2040

CRITICAL POINT
NONE

SOLID TRANSITION POINTS
NONE

PHASE DIAGRAM
NONE

LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)
6368 16232 22428

ORTHOHYDROGEN (CONT.)

HEAT CAPACITY

2040 6368 6617 10218 12197 16163 16232

ENTHALPY

10218 16163

ENTROPY

2040 6617 10218 16163

VELOCITY OF SOUND

NONE

THERMAL CONDUCTIVITY

10218

VISCOSITY

1511 6232 10218

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

6232 8776 11574

JOULE-THOMSON EFFECT

NONE

SURFACE TENSION

NONE

DEUTERIUM OR HYDROGEN DEUTERIDE

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)

476	487	2020	5118	5139	5595	5678	6064	6080	6084
6231	6258	6368	6421	6768	6840	7966	8732	8758	8762
9409	10836	11137	11238	12194	12725	13250	13537	13743	14990
16376	19187	19697	20649	21794	21853	22241	22243	23817	24336
25355	25559								

COMPRESSIBILITY

487	5118	5719	5879	6014	6768	7966	11238	14990	25355
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EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)

487	7966	25355
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VAPOR PRESSURE

444	449	454	645	2020	2040	5677	6085	6368	6378
9409	11134	11247	11250	12751	13537	13983	14954	14955	14956
14957	14958	14990	15009	15024	16232	16332	16376	16868	18126
19187	22243	22602	25355						

MELTING LINE DATA

421	475	5118	5449	5595	6080	6368	6421	13735	14130
16376	18567	23062							

TRIPLE POINT

449	454	2040	5595	5677	6080	6378	6421	8325	12751
13537	14130	14956	14990	15024	16332	16376	19187	22243	25355

BOILING POINT

2040	5677	6378	9624	11247	12751	14956	14990	16332	16376
19187	22243								

CRITICAL POINT

449	5677	6084	9624	10836	11134	13537	14990	15024	16332
19187	21016	21134	22243						

SOLID TRANSITION POINTS

NONE

PHASE DIAGRAM

NONE

LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)

645	2020	5595	5928	6136	6368	6378	6421	9409	9624
12751	14956	14990	16232	16376	16868	19187	22428		

DEUTERIUM (CONT.)

HEAT CAPACITY

204	275	645	657	949	1860	2020	2040	5095	5119
5595	5709	5825	6136	6265	6368	6378	6416	6421	6838
7843	7966	8370	9409	11271	12197	12356	13537	13759	14990
16163	16232	17624	18026	21016	21750	21794	21853	22677	22899
23267	23394	24326	25355	25559					

ENTHALPY

949	950	2020	6368	6838	7966	9409	11271	16163	21750
21794	21853								

ENTROPY

275	645	657	949	2020	2040	6368	6838	7966	8370
9409	11271	13537	16163	21016	21750	21794	21853	22677	25355

VELOCITY OF SOUND

1860	5709	5813	6838	7839	7843	14990	21794	21853	25355
25559									

THERMAL CONDUCTIVITY

756	2020	5095	5825	9409	10731	12489	14990	15484	16502
17393	17454	20641	25237	25355					

VISCOSITY

546	962	2020	3948	5095	5132	5136	5137	5706	5825
6064	6131	6274	6344	6372	8330	8758	9409	10731	11036
11806	11832	11899	13113	13270	14990	15484	17393	19280	21757
22249	22496	23173	24326						

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

565	1860	5118	5139	6230	6231	6258	6378	6959	8399
8732	8760	8762	8776	9461	9533	9545	10836	10846	11574
11899	12424	12617	12621	12725	19697	20649	21794	23817	25355

JOULE-THOMSON EFFECT

424	464	949	950	6838	10846	13759	14232	18026	21794
21853	22237								

SURFACE TENSION

2020	9409	10893	13537	16834	19704	22219	23183	25058	
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NEON

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)

143	203	690	737	800	801	991	1288	2135	3498
4900	5424	5542	5564	5567	5572	5738	6080	6091	6193
6326	6328	6333	6342	6432	6565	6581	6649	6703	6713
6718	6926	7017	7306	7355	7935	8703	9249	10401	10677
11005	11238	11280	11960	12018	12704	12895	13336	13413	13465
13467	13739	13761	15255	15653	16304	16404	16889	17015	17960
17965	18172	18493	19168	19187	19709	20647	20963	21824	22666
22898	23185								

COMPRESSIBILITY

800	5719	6091	6338	6765	7355	11238	23185	25082	
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EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)

800	6193	6765	7306	7355	12386	12919	13465	19168	22666
23185									

VAPOR PRESSURE

143	428	799	3405	5513	5564	5575	5798	6212	6326
6336	6338	7396	8699	8991	9249	11318	11573	11653	11990
12018	12204	13161	13398	13466	13467	14329	14718	14959	16219
16340	17015	17993	18126	18166	18172	18491	18493	18705	19121
19694	21408	22602	23185	24274	25057				

MELTING LINE DATA

475	490	5915	6080	6184	6225	9249	10912	11451	12018
12204	12295	13161	14423	14621	14989	16285	16364	16404	17718
18493	18567	19448	23062	23185					

TRIPLE POINT

143	4612	5564	6080	6326	6573	8699	9249	11573	15024
17015	18166	18491	19187	21824	23185				

BOILING POINT

143	6184	6326	6334	8699	12204	13161	14423	17993	19187
20893	23185	23830							

CRITICAL POINT

737	940	5537	5542	5564	5567	5572	5808	6049	6326
6342	6649	6703	6852	8699	9249	10373	11573	12204	15024
16331	16375	16404	17015	17625	18042	18493	19187	21134	22697
23185	25062								

SOLID TRANSITION POINTS

NONE

PHASE DIAGRAM

10912

LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)

5564	5572	5797	5928	6184	6337	6338	6341	6573	7396
9249	10848	11335	12018	12204	12295	13398	13467	16404	19187
20647	21824	24313							

ARGON

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)

203	405	453	470	667	737	800	801	1092	1689
2058	2135	3498	3644	4900	5131	5542	5551	5555	5564
5567	5572	5579	5580	5646	5652	5665	5738	6064	6080
6103	6170	6183	6189	6193	6326	6326	6407	6497	6703
6718	6923	6924	6926	6928	6997	7145	7252	7459	7614
7657	7935	8644	8684	8703	8704	8758	9028	9076	9249
9295	9749	9978	10401	10610	10759	10841	10923	11005	11022
11238	11280	11281	11769	11843	11960	12018	12194	12227	12405
12616	12647	12662	12736	12895	13005	13250	13381	13413	13449
13465	13613	14539	14545	14555	14706	14794	14989	15022	15255
15355	15357	15425	15641	15653	15905	15942	15943	16094	16105
16108	16156	16242	16295	16304	16330	16368	16404	16872	16885
16887	16889	16891	16892	16894	16895	16902	17018	17160	17274
17960	17965	18004	18022	18128	18172	18333	18492	19187	19709
19895	19965	20250	20647	20963	21338	21824	22228	22243	22666
23185	23400	23589	24337	24346	25103	25268			

COMPRESSIBILITY

34	442	502	509	800	1174	2728	5707	5719	5756
6101	6198	6209	6338	6995	7099	7459	8297	9295	10746
11238	11281	12227	12647	13678	14795	15942	16295	17018	20296
21755	22666	23185	24114	24302	25082	25103			

EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)

502	509	800	5652	6193	7099	9076	9295	9978	10746
11843	12018	12919	13465	14795	15942	15943	17018	18704	21052
21824	22228	22666	23185	25103	25326				

VAPOR PRESSURE

453	483	2068	3405	5564	5616	5806	5980	6083	6170
6212	6326	6338	6349	6497	7396	8906	8991	9249	9580
11281	11318	11573	11575	11653	11990	12018	12204	12373	12662
12895	13161	13466	13468	13820	13843	13844	13912	14229	14331
14718	16067	16214	17274	17993	18126	18172	18492	18748	18847
18848	18918	19287	20034	20370	21408	22602	23185	23400	23478
25057	25590								

MELTING LINE DATA

810	1999	5087	5088	5915	6080	6184	6300	6997	9249
9295	11281	11451	11452	12018	12200	12204	13161	13404	13613
13678	13778	14423	14621	14989	16234	16320	16364	16404	16871
17718	18492	18567	18840	18847	19448	20038	20370	21805	22426
23185	23385	23794	25103						

TRIPLE POINT

1999	3684	5564	6080	6083	6326	6573	9249	11573	12200
12662	13820	13844	15024	19187	20370	21824	22243	23185	24499

BOILING POINT

1179	5643	6083	6184	6326	6334	12204	13161	14423	16320
17993	18045	18847	19187	20370	20893	22243	23185	23830	24499

ARGON (CONT.)

CRITICAL POINT

562	737	940	5542	5564	5567	5572	5808	6049	6083
6105	6326	6703	6852	8684	9249	9501	10373	11573	12204
13820	14705	14794	15024	16320	16368	16375	16404	16819	17625
18042	18161	18492	18847	19187	19414	19801	21134	22241	22697
23185	23829	25062							

SOLID TRANSITION POINTS
NONE

PHASE DIAGRAM

13110 23385

LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)

5491	5564	5572	5885	5928	6184	6297	6300	6337	6338
6573	6849	6997	7396	8398	9249	10848	12018	12204	12405
12662	13380	13778	13820	13843	13912	16214	16295	16361	16404
18672	18846	19187	19287	20647	21824	23174	24313	25312	

HEAT CAPACITY

204	224	375	453	833	1860	3867	4591	5170	5261
5527	5572	5579	5707	5756	5887	5998	6099	6104	6105
6183	6198	6217	6221	6253	6257	6300	6362	6533	6573
7099	7127	7396	7604	8383	8673	8698	9249	9295	9501
9978	10746	10872	10882	11022	11281	11283	11451	11452	12018
12568	12662	12919	13250	13380	13381	13468	13696	13824	13843
15740	15905	15942	16214	16317	16404	16698	16899	17018	17166
17228	17274	17838	17969	18026	18072	18128	18332	18333	18492
18837	18838	19187	19188	19287	19301	19709	19774	20550	21210
21824	22666	23185	23558	24066	24302	24317	24368	24776	

ENTHALPY

453	833	5579	6183	6257	6497	7604	10882	11281	11283
11921	12079	13250	15355	15740	16842	16899	17166	18128	23400
23595	25312								

ENTROPY

224	453	833	1179	3867	5579	6170	6183	6257	6297
6497	7396	7604	8763	10882	11281	11283	11452	11921	12079
12647	12662	13250	13449	14705	15355	15357	15740	16375	16899
17166	17274	17961	18128	19709	23558	23595	24066	25062	

VELOCITY OF SOUND

34	453	652	655	1106	1860	4591	5572	5579	5707
5756	5759	5813	6103	6104	6161	6175	6198	6992	7127
7789	9249	9501	9978	10746	10923	11022	11281	11710	12256
12643	12704	13250	14198	15021	17018	17274	18333	18598	18851
19306	19774	19909	20250	21281	22052	24302			

ARGON (CONT.)

THERMAL CONDUCTIVITY

434	453	592	617	628	654	676	695	724	749
750	757	821	857	999	3479	5085	5088	5095	5124
5501	5504	5505	5520	5555	5572	5573	5686	5910	5911
5912	5959	6031	6068	6070	6071	6100	6106	6164	6174
6186	6217	6323	6332	6497	6738	6746	7052	8024	8313
8692	8700	9249	9295	9580	9697	10461	10548	10593	10731
10746	10803	10844	10914	11461	11805	11847	12018	12895	12925
12977	13633	13647	13980	14418	14480	15144	15484	15634	15738
15905	16000	16152	16296	16303	16317	16404	16502	16878	16879
16880	16886	16897	17175	17454	17558	17968	17969	17994	18001
18128	18303	18490	18842	18843	19176	19179	19188	19325	19480
19659	19904	20390	20431	20553	20975	21338	22714	22812	22828
22829	22999	23185	23500	24312	24368	25060	25237	25293	

VISCOSITY

374	453	570	530	544	588	615	791	903	940
999	1106	3284	3896	5085	5087	5088	5094	5095	5124
5507	5555	5573	5643	5706	5745	5749	5807	5959	6061
6064	6154	6164	6321	6339	6340	6360	6385	6386	6391
6497	6738	7052	8024	8645	8700	8758	9149	9249	9607
10610	10725	10731	10747	10749	10750	10751	10753	10759	11036
11487	11832	12018	12078	12631	12977	13633	13647	14014	14480
14978	15024	15376	15484	15653	15738	15838	15904	15905	16152
16296	16302	16317	16884	16888	16889	17160	17175	17538	17558
17730	17961	17962	17964	17998	17999	18000	18015	18055	18128
18841	18994	19175	19187	19188	19286	19479	19617	19659	20010
20390	20975	21002	21053	21305	22243	22497	22675	22828	22999
23031	23310	23397	23503	23589	23617	23824	24287	24311	24312
24313	24346	24542	24775	25055	25237	25293			

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

442	453	652	688	801	1092	1860	2135	5542	5551
5580	5759	5808	5967	6101	6103	6189	6194	6229	6326
6328	6338	6586	6703	6718	6852	6926	6927	6928	6929
6959	6995	7099	7252	7614	7657	7763	7935	8107	8297
8331	8383	8398	8644	8645	8684	8685	8700	8763	9028
9249	10750	10759	10846	10923	11005	11280	11960	12287	12662
13250	13613	13982	14621	14766	15024	15943	16067	16094	16156
16832	16871	16891	17274	17960	17961	17965	18161	18492	18672
18839	18852	19445	19446	19709	19801	19895	19965	20296	20495
21052	21696	22666	22999	23001	23187	23595	24114	24302	24317
24337	24948	25061	25062	25103	25268	25365	25615		

JOULE-THOMSON EFFECT

464	567	5579	6183	7604	7935	8700	9249	10846	10923
11237	13250	14232	15255	16870	18026				

SURFACE TENSION

536	992	2135	5899	6402	8398	10570	11957	11961	12018
12914	16295	16834	17160	18845	19189	19443	19704	20296	20647
22243	23186	23589	23596	24346	24780	25262			

NITROGEN

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)

67	203	218	293	318	370	405	447	453	469
566	605	634	700	737	738	801	924	983	1092
1116	1130	1689	2020	2135	3525	3754	4900	5120	5122
5123	5215	5424	5542	5547	5550	5555	5646	5665	5725
5728	5738	5897	5938	6023	6051	6064	6069	6095	6125
6170	6248	6318	6326	6328	6330	6346	6352	6389	6497
6615	6630	6644	6718	6721	6772	6815	6912	6914	6920
6926	6928	6988	6997	7010	7146	7147	7252	7324	7568
7611	7628	7681	7852	7889	7935	8044	8644	8679	8682
8683	8703	8707	8716	8717	8758	8774	9409	9507	9735
9737	9978	10401	10647	10672	10677	10742	10748	10759	10839
10841	10873	10923	11002	11005	11022	11238	11280	11624	11995
12018	12034	12194	12258	12267	12298	12405	12501	12502	12647
12698	12704	12781	12828	12829	12895	13377	13413	13438	13781
14127	14274	14423	14539	14540	14794	14796	14962	14989	14990
15022	15255	15536	15550	15641	15652	15653	15710	16108	16109
16156	16835	16836	16876	16883	16895	17018	17960	17965	18021
18046	18132	18167	18169	18181	18492	18512	19119	19184	19709
19711	20250	20267	20642	20647	20963	20974	21132	21338	21414
21824	22666	22928	23065	23387	23393	23400	23552	23598	23627
24322	24328	24414	25268						

COMPRESSIBILITY

34	442	650	680	1174	2728	3754	5719	5756	6092
6198	6330	6765	6988	6995	7297	7474	8044	8207	8208
10746	11238	11613	12647	12820	13610	13845	14990	17018	18182
20296	20896	22666	23419	23552	24302	24583			

EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)

447	3754	5215	6765	7297	7324	7460	8717	9978	10746
16120	17018	20896	22666	24583					

VAPOR PRESSURE

230	293	408	453	483	513	634	700	2020	2928
3405	5099	5480	5516	5529	5616	5980	6170	6243	6289
6293	6326	6497	6630	6721	6759	7396	8699	8711	9409
10196	10763	11249	11318	11803	12018	12166	12204	12267	12298
12828	12895	13161	13382	13384	13463	13468	13924	14072	14127
14329	14331	14619	14680	14718	14990	16067	16109	16358	17993
18126	18181	18492	18505	18509	18582	19184	19694	21051	21408
22602	22665	22687	23400	23552	24274	24325	24328	24822	25590

MELTING LINE DATA

447	475	490	638	1999	2169	5525	5915	6293	6300
6398	6997	8793	10843	10912	11114	12018	12034	12204	12267
13161	13778	13831	14423	14621	14962	14989	16287	16358	16364
18180	18492	18567	19448	20038	20974	23385			

NITROGEN (CONT.)

TRIPLE POINT

513	1999	2928	5516	5564	6326	6630	8699	10196	10763
10843	14990	15024	16700	18505	18509	21824			

BOILING POINT

230	513	1617	2169	2928	5516	5643	6240	6293	6326
6334	6630	8699	11051	11114	12034	12204	13161	14072	14423
14990	16358	16695	17993	18045	18509	19185	22935	24499	

CRITICAL POINT

513	562	700	737	940	5542	5564	5576	5808	6023
6049	6105	6326	6424	6630	6721	6852	8044	8699	9501
11051	12034	12166	12204	14423	14794	14796	14990	15024	16375
16819	17336	17625	18042	18181	18492	19414	20036	20135	21134
22697									

SOLID TRANSITION POINTS

605	5525	6293	6398	7059	13468	14990	15641	15643	16109
18180	18454	22450	23552	24240					

PHASE DIAGRAM

605	5897	7059	10912	13110	14423	23385			
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LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)

230	513	985	2020	4225	5550	5733	5928	6293	6297
6300	6313	6337	6398	6424	6849	6997	7059	7144	7396
9409	10843	10848	11335	12018	12034	12204	12267	12405	12828
13377	13378	13380	13778	13803	13831	13849	14423	14619	14990
16093	16101	16109	16358	16361	16594	16845	18505	19728	20647
21051	21824	23174	23552	24313	24328	25312			

HEAT CAPACITY

204	224	275	453	469	485	626	633	640	700
721	738	840	842	983	998	1116	1238	3867	5093
5095	5432	5493	5536	5550	5600	5718	5726	5733	5756
5921	6011	6046	6062	6104	6105	6109	6114	6177	6198
6217	6221	6223	6253	6257	6265	6266	6282	6293	6294
6300	6318	6326	6363	6393	6398	6630	6659	6841	7010
7059	7127	7392	7396	7747	7896	8109	8110	8111	8112
8131	8389	8673	8696	8698	8706	8710	9501	9978	10742
10746	10748	10752	10872	10873	10880	10882	11021	11022	11023
11283	12018	12298	12503	13380	13438	13468	13831	14127	14530
14990	15642	15739	16109	16317	16760	16845	16869	16877	17018
17166	18026	18332	18492	18706	18838	19709	19728	19774	20550
20909	21051	21132	22666	22805	22833	23552	23627	24298	24302
24314	24315	24316	24318	24323	24332	24583			

NITROGEN (CONT.)

VISCOSITY

207	374	441	450	453	530	604	615	618	700
940	999	1106	3284	5093	5095	5124	5394	5432	5507
5555	5573	5600	5643	5669	5703	5706	5711	5736	5807
5888	5896	5896	5959	6011	6061	6064	6067	6110	6151
6154	6164	6263	6269	6272	6275	6318	6321	6334	6360
6385	6405	6497	6630	6738	7010	7052	7105	8024	8645
8700	8701	8758	9250	9607	10436	10579	10658	10869	10731
10747	10748	10749	10750	10751	10753	10759	10782	10840	10880
11021	11023	11103	11487	11832	11995	12018	12078	12166	12631
12698	12977	14423	14480	14622	14978	14990	15024	15087	15376
15484	15653	16296	16301	16317	16575	17538	17730	17999	18107
18841	18917	19175	19188	19286	19297	19617	19659	20010	21002
21053	21305	22243	22828	22999	23552	23617	24287	24311	24312
24313	24319	24322	24324	24330	24331	24775	25000	25055	25177
25293									

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

67	225	293	442	453	459	634	640	650	652
660	669	721	801	1092	2135	3276	5424	5542	5725
5808	5938	6177	6194	6229	6230	6248	6254	6326	6328
6334	6374	6424	6718	6733	6772	6852	6926	6927	6928
6929	6959	6995	7252	7324	7392	7466	7611	7628	7681
7852	7935	8044	8107	8331	8399	8644	8645	8683	8685
8702	8707	9507	9610	9716	9735	9737	10647	10677	10750
10759	10846	10875	10923	11005	11280	12298	12420	12637	12781
12829	12855	13330	13377	13463	14127	14142	14540	14621	14622
14766	14962	15024	15356	16067	16109	16156	16832	16846	17336
17960	17965	18021	18492	18512	18706	18839	18917	19445	19709
20267	20296	20642	21051	21132	22666	22999	23187	23387	23390
23595	23674	23791	24298	24302	24327	24744	24946	24948	25268

JOULE-THOMSON EFFECT

332	464	469	567	3276	5897	6424	7935	10677	10846
10923	14232	15255	15648	16869	18026	18526	20817		

SURFACE TENSION

536	2135	6394	6400	6405	10570	11957	11961	12018	12914
16834	18182	19189	19443	19704	20296	20647	22243	23186	23596

OXYGEN

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)

67	203	218	293	405	453	488	636	700	737
787	1130	2020	2135	2161	2208	3498	4183	4511	4588
4900	5215	5363	5424	5542	5546	5550	5646	5938	6023
6064	6069	6125	6160	6273	6318	6326	6352	6389	6424
6497	6615	6644	6718	6781	6805	6814	6853	6854	6912
6917	6926	6928	6988	7026	7146	7148	7299	7324	7362
7611	7681	7935	8648	8679	8687	8703	8716	8774	9005
9409	9749	10401	10402	10647	10672	10677	10742	10748	10759
10841	10923	11002	11003	11005	11015	11280	11582	11624	11769
11798	11995	12018	12034	12194	12258	12381	12405	12727	12802
12827	12828	12840	12854	12895	13125	13247	13344	13345	13377
13413	13482	13546	13781	13923	14331	14545	14794	14990	15022
15255	15268	15490	16156	16357	16883	17018	17160	18167	19184
19278	19703	20248	20642	20645	20646	20651	20963	21338	21824
22666	23393	23400	23501	24328	24346	25268			

COMPRESSIBILITY

34	442	680	4588	5756	6792	6811	6854	6917	6988
7034	10389	10746	14990	15490	17018	18182	20296	22666	24777
24782									

EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)

4183	4588	5215	7324	10746	16120	17018	22666		
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VAPOR PRESSURE

293	453	455	483	700	787	3405	4183	4588	5099
5363	5397	5616	6047	6081	6167	6243	6326	6349	6403
6497	6620	7396	7791	8699	8711	8906	10196	10763	10790
11318	12018	12166	12204	12373	12802	12827	12828	12895	13161
13345	13379	13382	13384	13463	13466	13468	13783	14072	14329
14331	14619	14959	14990	15490	16067	16072	16075	16077	16100
16282	16425	16697	16699	16702	18003	18126	18171	18509	19185
19410	19694	20034	21408	22602	22830	23400	24274	24325	24328
24777	24782	25590							

MELTING LINE DATA

475	490	527	538	802	810	2020	2169	4588	5525
5915	6074	6300	6398	9409	10414	10912	11798	12018	12034
12204	13021	13161	13831	13923	14619	14960	16331	16425	18180
18515	18516	18567							

TRIPLE POINT

4588	5564	6326	8699	10196	10763	10958	11798	12802	12827
14990	15024	16700	18509	21824	22938	24506			

BOILING POINT

1617	2169	2819	5643	6326	6327	6403	7622	8699	9005
9014	9076	11001	11051	11114	12034	12204	12506	12827	12837
13021	13161	13379	13783	13923	14072	14248	14959	14990	16075
16077	16282	16695	16697	16701	18045	18509	18516	19185	22935
22936	24390	24498	24499						

OXYGEN (CONT.)

VELOCITY OF SOUND

34	453	680	682	988	1106	3106	3801	4183	4588
4591	4902	5756	5759	6161	6201	6363	6424	6811	6841
6853	6992	7128	7391	7476	7653	7747	7807	7827	7841
7896	8282	8695	9501	10746	10923	12704	13099	13296	13889
14990	16877	17018	18851	19205	19289	20252	22052	24318	24777
24782									

THERMAL CONDUCTIVITY

406	446	453	604	617	695	717	724	760	784
999	3479	4588	5095	5494	5505	5524	5573	5701	5889
5911	5959	5988	6011	6027	6068	6071	6106	6151	6164
6169	6174	6217	6270	6271	6275	6318	6323	6497	6738
6746	7052	8024	8313	8693	10461	10548	10658	10731	10746
10748	10799	10844	10880	10914	11007	11010	11021	11540	11582
11995	12018	12895	12977	14418	14480	14622	14733	14990	15484
15490	15651	16296	16317	17994	18182	18490	18843	19179	20431
21338	22828	22895	24312	24777	24782	25177	25237	25293	

VISCOSITY

374	446	450	453	538	604	615	700	940	999
1106	3284	4588	5094	5095	5573	5643	5703	5706	5711
5736	5807	5959	6011	6061	6064	6110	6151	6164	6263
6269	6272	6275	6318	6321	6384	6386	6391	6497	6738
7052	7299	8024	8645	8700	8701	9250	10436	10579	10658
10673	10731	10747	10748	10749	10750	10751	10753	10759	10782
10880	11021	11479	11487	11582	11832	11995	11995	12018	12078
12166	12977	13824	14480	14978	14990	15087	15484	15490	15838
16296	16317	17160	17538	17999	19286	19617	20010	20389	21305
22828	23617	24311	24312	24313	24346	24777	24782	25177	25293

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

67	225	293	442	453	457	488	542	669	2135
3276	3801	4588	5424	5514	5542	5759	5808	5938	6229
6326	6424	6586	6718	6805	6852	6853	6854	6926	6927
6928	6929	6959	7148	7324	7391	7611	7681	7827	7935
8107	8331	8645	8702	10647	10677	10750	10759	10923	10989
11005	11280	12246	12420	12802	12827	12855	12855	13377	13463
14622	14766	16067	16156	16846	18839	19703	20296	20642	20651
22666	24298	24946	25268						

JOULE-THOMSON EFFECT

3276	4588	5603	7935	10677	10923	14232	15255	18026	18526
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SURFACE TENSION

536	538	2135	4588	6394	6400	7299	11618	11961	12018
12914	13824	15490	17160	18182	19443	20296	23186	23596	24346
24777	24780	24782							

CARBON DIOXIDE

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)

370	484	545	619	700	775	3253	5434	5548	5569
5728	5738	6109	6170	6193	6273	6318	6497	6926	6988
7611	7657	7681	7935	8044	8676	8682	8688	8717	8718
8719	8732	8758	9736	10296	10647	10735	10748	10759	11005
11026	11114	11280	11820	12405	12790	12895	13479	14249	14331
14534	14674	14691	15644	15645	16308	16883	17767	18719	18978
18979	20267	20642	20645	20646	20974	21132	21338	22481	23387
24299	25268								

COMPRESSIBILITY

442	6988	8044	8207	8676	13610	13845	20897	24302
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EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)

484	6157	6193	7460	8392	8717	11486
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VAPOR PRESSURE

453	700	5016	5434	5674	5919	6043	6047	6167	6170
6497	6580	8718	10190	10202	10744	11318	11799	12204	12266
12895	13161	13463	14329	14331	14619	14718	16204	16697	16701
17211	18126	18582	18719	19410	19694	21408	22602	24274	25590

MELTING LINE DATA

490	2169	12204	12266	13161	14423	15487	18567	20974
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TRIPLE POINT

462	3684	10958	12266	17211	24499
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BOILING POINT

2169	5643	9076	12204	13161	13369	14423	16697	17211	18045
24499									

CRITICAL POINT

542	619	700	5255	6049	6105	8044	8718	12204	12786
13369	13479	16210	16211	16819	18042	22481	22697	23618	

SOLID TRANSITION POINTS

NONE

PHASE DIAGRAM

482

LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)

5434	5491	11799	12040	12204	12405	13848	14619	17211
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HEAT CAPACITY

446	484	485	626	633	640	700	832	998	3142
5038	5093	5095	5432	5434	5493	5536	5571	5600	5718
5913	5921	5998	6011	6029	6041	6046	6062	6105	6114
6138	6221	6253	6265	6282	6318	6393	7127	7747	8698
8706	8710	9076	9483	9486	10296	10748	10752	10880	11023
11283	11799	11815	12423	12790	13479	14251	14674	15739	15740
16877	17166	17211	17969	18332	18837	18838	20643	21132	22251
22805	24302	24314	24315	24316	24318	24323	24332	24368	

CARBON DIOXIDE (CONT.)

ENTHALPY

484	520	553	658	832	998	3253	5493	5570	5921
6393	6497	9483	10296	10958	11041	11102	11283	11820	11921
12428	12790	13479	14249	14251	15650	15680	15739	15740	17166
18978	23595	24299	24314	25543					

ENTROPY

520	553	658	832	5570	6163	6170	6497	9826	10296
11041	11102	11283	11799	11820	11921	12428	12790	13479	14251
15739	15740	17166	17211	17961	18978	23595			

VELOCITY OF SOUND

1106	2274	5600	6093	6816	6936	7062	7127	7128	7314
7387	7747	7916	8695	12790	13296	13679	16877	19289	20252
24302	24318								

THERMAL CONDUCTIVITY

46	592	628	654	714	724	999	5093	5095	5124
5432	5494	5505	5573	5889	5911	5914	5944	5959	6011
6027	6031	6068	6070	6106	6127	6151	6164	6169	6174
6275	6318	6323	6497	6619	6738	7010	7907	7989	8024
8312	8313	8692	9244	10296	10548	10731	10748	10880	11007
11023	11033	11042	11461	11669	11825	12790	12849	12895	12977
14418	14480	14674	14675	15645	16000	16298	16898	17454	17968
17969	17994	18303	18490	18843	18924	20431	21338	21955	24307
24368	25177	25237	25293	25362					

VISCOSITY

207	374	446	450	530	545	615	700	999	1106
3284	5093	5095	5124	5432	5573	5600	5643	5888	5959
6011	6061	6067	6110	6151	6164	6275	6318	6386	6391
6405	6497	6738	7010	7907	8024	8700	8758	10296	10731
10744	10747	10748	10749	10750	10759	10782	10880	11023	11033
11487	11832	12078	12578	12790	12977	14480	14622	15376	15645
16298	17538	17730	17961	17964	18000	18917	18995	19188	19617
20011	21955	23617	24307	24311	25177	25293			

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

442	457	542	631	640	660	3276	3541	5674	5875
5967	6093	6194	6580	6706	6733	6926	6927	6929	6959
7611	7657	7681	7935	8044	8107	8331	8685	8732	9716
10647	10735	10750	10759	10846	10875	11005	11026	11114	11280
12785	12855	13330	13463	14402	14534	14622	14766	15356	15644
16308	16832	17211	17663	17767	17961	18839	18917	18978	18979
19445	20267	20642	20897	21132	21583	23187	23387	23390	23446
23595	24299	24302	24327	25268					

JOULE-THOMSON EFFECT

464	567	3276	6109	7935	10846	13479	14232	15648	18526
20817									

SURFACE TENSION

3541	6405
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METHANE

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)

318	370	924	2135	3253	3844	5127	5128	5424	5502
5503	5534	5542	5665	5728	5730	6023	6064	6080	6087
6170	6318	6408	6703	6718	6926	6928	7681	7811	7935
8044	8667	8682	8703	8716	8717	8758	8793	9498	10647
10728	10748	10759	10841	10873	11005	11717	12018	12501	12502
12704	12781	12895	12895	13413	13438	13467	13800	13808	14111
14532	14535	14545	14706	15425	15652	15654	15826	16104	16123
16308	16876	17274	17443	17785	18181	18500	18513	18750	19294
19613	20267	20554	20642	20903	21133	21338	21433	22243	22666
22672	22979	23248	23387	24263	24308	25063	25268		

COMPRESSIBILITY

34	680	2728	5707	5756	6198	6971	8044	8208	8667
10389	10746	11613	22666	24308					

VAPOR PRESSURE

407	673	3660	3844	5397	5480	5482	5503	5518	5674
5679	5773	5919	6025	6040	6042	6043	6047	6087	6170
6406	8288	9984	10744	11249	12018	12204	12264	12895	13161
13467	13468	15106	15826	16075	16218	17274	17316	18168	18171
18181	18509	18582	18748	19410	19694	19721	20903	21051	21126
21403	22250	22602	22830	24274	24703	25590			

MELTING LINE DATA

523	810	1416	5087	5487	6080	6398	8793	12018	12204
13021	13161	14111	14620	16102	16231	18180	18516	18980	22426
25355									

TRIPLE POINT

407	1416	5487	5679	6028	6034	6080	8288	15024	15826
17679	18509	20903	22243	24499	25355				

BOILING POINT

3844	9984	11051	12204	13021	13161	14111	15826	18045	18509
18516	20893	20903	22243	24499					

CRITICAL POINT

542	562	694	940	2181	5502	5534	5542	5576	5730
5808	6023	6034	6040	6049	6072	6105	6409	6703	8044
8288	9501	9984	10194	11051	12204	13548	13680	13800	13958
15024	15826	16375	17336	18042	18181	19414	20036	20134	21126
21134	22243	22697	23618	24297					

METHANE (CONT.)

SOLID TRANSITION POINTS

712	1416	5685	6398	10389	13468	14077	14620	16231	17679
17774	18180	20181	20285	20903	25355				

PHASE DIAGRAM

712	5734	13680
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LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)

1416	3660	3844	5487	5502	5534	5685	5885	6037	6038
6297	6398	9984	12018	12204	13021	13467	14111	14620	15826
16231	17679	18168	18980	20247	20903	21051	21954	24313	25355

HEAT CAPACITY

446	485	633	673	683	694	998	1416	2069	3272
3844	5093	5095	5257	5536	5600	5679	5685	5707	5718
5756	5998	6011	6029	6032	6036	6037	6040	6041	6046
6105	6143	6198	6217	6253	6265	6294	6318	6393	6398
7127	8710	9501	9984	10741	10746	10748	10873	10880	10913
12018	12503	13021	13438	13468	14077	14620	15632	15739	15740
15826	16123	16231	16317	16698	16877	17166	17274	17679	17969
18026	18168	18513	18837	18838	20247	20432	20554	20903	21051
22666	22833	23386	24314	24315	24323	24368	25355		

ENTHALPY

694	998	2181	3253	5128	5257	5386	6037	6087	6143
6197	6393	9498	11761	11921	12018	12501	12502	12781	12793
13047	13438	13958	14399	15650	15680	15739	15740	15826	16759
17166	18168	18605	20247	20268	20432	21051	24314	24861	

ENTROPY

694	1126	1416	3844	5128	5218	5685	6026	6037	6087
6143	6170	6297	7427	8122	8134	8365	9498	9984	11921
12781	13047	13438	15739	15740	15826	16375	16759	17166	17274
17679	20432	21954							

VELOCITY OF SOUND

34	652	680	1988	5600	5707	5756	6198	6705	7127
9501	10746	12704	13679	16877	17274	18851	19289	20252	20554
22052									

THERMAL CONDUCTIVITY

446	523	592	617	695	784	927	999	5093	5095
5504	5505	5889	6011	6027	6031	6068	6071	6151	6164
6217	6275	6318	6738	7052	8024	8313	10548	10731	10741
10746	10748	10844	10880	10913	11007	11669	11805	12018	12895
12895	14418	14480	14733	15484	15632	16317	17968	17969	17994
18490	18832	18842	18843	19325	19904	20431	21338	22999	24297
24312	24324	24368	24720	25060	25176	25177	25237	25293	

METHANE (CONT.)

VISCOSITY

207	446	450	588	615	940	999	2730	3284	5087
5093	5094	5095	5600	5669	5703	5736	5888	6011	6061
6064	6073	6110	6151	6164	6275	6318	6738	7052	8024
8700	8734	8758	9038	10579	10669	10728	10731	10744	10747
10748	10750	10751	10759	10782	10880	10913	11766	12018	12078
12578	14480	14622	14789	15024	15484	15838	15904	16317	16335
17538	17964	18841	19175	19286	19617	19969	20010	20389	21618
21757	22243	22999	23032	23173	23248	23617	24311	24312	24313
24324	24775	25177							

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

457	542	652	2135	4625	5386	5424	5542	5674	5808
5967	6194	6229	6374	6703	6718	6926	6927	6928	6929
6939	6940	6959	7681	7935	8044	8331	8399	8685	9716
10647	10750	10759	10846	10847	11005	12420	12781	12785	13544
14535	14622	14766	15024	15654	16104	16308	16832	17274	17336
17443	17618	18513	19294	19613	20267	20268	20373	20554	20642
21051	21133	21696	22666	22979	22999	23187	23387	24263	24946
24948	25063	25268	25330						

JOULE-THOMSON EFFECT

567	5218	7935	10194	10846	10847	13438	14232	18026	18095
18168	20895								

SURFACE TENSION

3844	12018	19189	22243	23186	23596
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ETHANE

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)

984	3253	3844	5128	5534	5614	6064	6080	6718	7605
7681	8044	8717	8793	10387	10748	10759	11717	11819	12501
12502	12895	13438	13467	14111	14545	15357	15536	15550	15849
15869	16308	16876	18750	19613	20267	21133	21694	22666	23248
24263	24308	25268							

COMPRESSIBILITY

2728	8044	8669	10387	21694	24302	24308
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EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)

5534	6040	7460	7605	8717	15357	22666
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VAPOR PRESSURE

MELTING LINE DATA

TRIPLE POINT

6080	25534
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BOILING POINT

3844	5605	11051	12204	13611	13884	14111	18516	25534
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CRITICAL POINT

SOLID TRANSITION POINTS

NONE

PHASE DIAGRAM

13680

LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)

984	3660	3844	5491	5534	6037	6038	6297	11456	12204
13467	13611	14111	18980	24313	25534				

ETHANE (CONT.)

HEAT CAPACITY

673	694	984	3844	5095	5257	5497	5718	5998	6037
6040	6041	6099	6105	6109	6138	6265	7127	8710	10748
10880	10913	13438	15632	15740	16877	22666	22833	24302	24314
24368	25534								

ENTHALPY

694	984	2181	3253	5128	5257	6037	6197	11761	11819
11921	12501	12502	13438	13491	14019	14399	15357	15650	15740
18605	20268	23595	24314	24825	25534				

ENTROPY

508	694	984	3844	5128	5218	6037	6297	11819	11921
13438	15357	15740	23595	25534					

VELOCITY OF SOUND

7127	13679	16877	24302
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THERMAL CONDUCTIVITY

999	5095	5504	5535	6151	10548	10731	10748	10844	10880
10913	11805	12895	14418	14480	15484	15632	17968	18832	24368
24720	25177	25237							

VISCOSITY

207	999	2730	5095	5669	5706	6064	6151	6263	6747
8734	9038	10731	10748	10750	10759	10782	10880	10913	12078
13676	14480	14622	15484	17964	19969	23032	23248	23617	24313
25177									

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

542	5674	5875	5967	6229	6718	6929	6939	6940	7098
7681	8044	8669	9716	10750	10759	10846	12785	13544	14622
14766	15356	15357	16308	17618	19613	20267	20268	21133	23595
24263	24302	25268	25534						

JOULE-THOMSON EFFECT

5218	10846	13438	19124
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SURFACE TENSION

3844	11906
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KRYPTON

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)

2068	5572	5614	5738	6080	6170	7657	7935	8684	9249
10759	11843	11960	12616	12736	16304	16404	16872	16889	18131
18172	18493	21338	21824	22243	22666	22695	23185		

COMPRESSIBILITY

5719	6338	13678	23185	25082
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EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)

11843	12919	22666	22676	23185
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VAPOR PRESSURE

2068	5016	5563	5806	6170	6212	6338	9249	11573	11816
12204	12568	12895	13161	14718	16699	18126	18172	18493	19373
22602	22695	23185	24849	25057					

MELTING LINE DATA

810	5915	6080	6184	9249	11451	12200	12204	13161	13404
13678	14423	14621	16102	16404	17718	18493	18567	22426	23185

TRIPLE POINT

6080	6573	9249	11573	12200	12568	15024	21824	22243	22695
23185	24499								

BOILING POINT

6184	12204	13161	14423	18045	19373	20893	22243	22695	23185
23830	24499								

CRITICAL POINT

5572	6049	8684	9249	10373	11573	12204	15024	16404	17625
18042	18493	21134	22243	22697	23185	25062			

SOLID TRANSITION POINTS

NONE

PHASE DIAGRAM

NONE

LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)

5572	6184	6297	6338	6573	9249	12204	12568	16404	19700
21824	22695	24849							

KRYPTON (CONT.)

HEAT CAPACITY

204	3867	5572	6217	6362	6533	6573	9249	10882	11451
12568	12919	16404	16698	18493	19774	22666	22695	23185	23558
24368									

ENTHALPY

3867	10882	11679	16842	18140
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ENTROPY

3867	6170	6297	10882	11679	23558	25062
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VELOCITY OF SOUND

5572	6175	9249	19774
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THERMAL CONDUCTIVITY

750	5085	5095	5501	5520	5572	6217	6332	6738	9249
10548	10593	10731	10844	11847	13647	13647	16152	16303	16404
17175	18490	19325	19700	20390	20431	20975	21338	22812	22828
22999	23185	24368	24542	25237					

VISCOSITY

588	5085	5095	5749	6340	6738	9249	10731	10753	10759
11679	13647	13647	14014	15838	15904	16152	16152	16152	16302
16889	17175	18000	18015	19286	19700	20390	20975	21305	22828
22999	23310	24311							

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

5967	6338	7657	7935	8107	8684	9249	10759	11679	11960
13982	14621	14766	18131	18852	19445	19700	21696	22999	23187
24946	25061	25062							

JOULE-THOMSON EFFECT

7935	9249
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SURFACE TENSION

NONE

REFRIGERANT 13

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)
7252 8025 8682 20007

COMPRESSIBILITY
NONE

EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)
NONE

VAPOR PRESSURE
8025 12204 23212

MELTING LINE DATA
12204 13884 18488

TRIPLE POINT
NONE

BOILING POINT
12204 13884

CRITICAL POINT
12204 13884 23618

SOLID TRANSITION POINTS
NONE

PHASE DIAGRAM
NONE

LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)
5491 12204 14428 18488

REFRIGERANT 13 (CONT.)

HEAT CAPACITY
5536 8025 18488

ENTHALPY
11921

ENTROPY
11921

VELOCITY OF SOUND
NONE

THERMAL CONDUCTIVITY
14428 15280 15484

VISCOSITY
15484 16299 16301

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)
7252 20007

JOULE-THOMSON EFFECT
NONE

SURFACE TENSION
NONE

REFRIGERANT 14

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)
8394 10387 10388 10759 17443 20007 24308

COMPRESSIBILITY
10387 10388 24308

EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)
NONE

VAPOR PRESSURE
12204

MELTING LINE DATA
12204 13884 18180

TRIPLE POINT
NONE

BOILING POINT
12204 13884

CRITICAL POINT
8394 12204 13884

SOLID TRANSITION POINTS
NONE

PHASE DIAGRAM
NONE

LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)
12204

REFRIGERANT 14 (CONT.)

HEAT CAPACITY

15180 17166 20590

ENTHALPY

8394 17166 20590

ENTROPY

8394 9819 17166 20590

VELOCITY OF SOUND

15180

THERMAL CONDUCTIVITY

25177

VISCOSITY

10759 16301 25177

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)

10759 15180 17443 20007 23187

JOULE-THOMSON EFFECT

NONE

SURFACE TENSION

NONE

REFRIGERANT 23

PVT DATA (INCLUDES DENSITY AND COMPRESSIBILITY FACTOR)
9807

COMPRESSIBILITY
NONE

EXPANSIVITY (INCLUDES COEFFICIENT OF THERMAL EXPANSION)
NONE

VAPOR PRESSURE
9807 12204

MELTING LINE DATA
12204

TRIPLE POINT
NONE

BOILING POINT
12204

CRITICAL POINT
9807 12204

SOLID TRANSITION POINTS
NONE

PHASE DIAGRAM
NONE

LATENT HEAT (INCLUDES HEATS OF FUSION, SUBLIMATION AND VAPORIZATION)
12204

REFRIGERANT 23 (CONT.)

HEAT CAPACITY
9807

ENTHALPY
NONE

ENTROPY
NONE

VELOCITY OF SOUND
NONE

THERMAL CONDUCTIVITY
NONE

VISCOSITY
16301

EQUATIONS OF STATE (INCLUDES VIRIAL COEFFICIENTS)
9807

JOULE-THOMSON EFFECT
NONE

SURFACE TENSION
NONE

OTHER REFERENCES TO REFRIGERANT PROPERTIES

781	998	4403	6151	6167	6221	6386	8039	10731	10747
10823	10921	11014	11825	12405	13465	13681	14418	14718	14819
15049	15284	17399	18117	18831	18920	18921	20063	20338	20466
21176	24564	25010	25200	25237	25293				

- 00034 Velocity and attenuation of sound at low temperature.
Van Itterbeek, A.
PROGRESS IN LOW TEMPERATURE PHYSICS 1, 355-80, North Holland
Publ. Co., Amsterdam, The Netherlands (1955) 19 fig 3 tab
49 ref
MF No. 62-C A2 B1 C5 D5 E1 F7 G2 S5
*helium, *gaseous, *velocity of sound, *specific heat, *liquid,
lambda temperature, *physical property, sound absorption;
A2 B1 C6 D5 E1
*oxygen, *nitrogen, *argon, *methane, *hydrogen, *liquid,
*velocity of sound, *compressibility, density;
- 00067 The tabulation of imperfect-gas properties for air, nitrogen,
and oxygen.
Hall, N.A. Ibele, N.E.
Trans. Am. Soc. Mech. Engrs. 76, 1039-56 (1954) 2 fig 6 tab
14 ref
MF No. 46-G A3 B1 C2 D1 E2 F6 G1 S4
compressibility factor, virial coefficient, *air, *nitrogen,
*oxygen, *gaseous, *PVT data, *equation of state
- 00069 Mechanical properties of stainless steels at subzero
temperatures.
Hoke, J.H. Mabius, P.G. Goller, G.N.
Metal Progr. 55, 643-48 (1949) 12 fig 1 tab 8 ref
A2 B1 C7 D E1 F6 G1 49
*stainless steel, *tensile property, tensile strength,
yield strength, proportional limit, reduction of area,
elongation, *notch property, impact strength, work hardening,
heat treatment, ductility, ferrite, martensite
- 00128 Calorimetric studies at extremely low temperatures.
Keesom, W.H.
J. Phys. Radium 5, 373-84 (1934)
MF No. 69-E A2 B2 C5 D3 E1 F7 G1 S4
*electrical conductivity, *magnesium, *alloy, phosphorbronze,
*rare earth, cerium, resistivity;
A2 B2 C5 D3 E1
*thallium, *specific heat, *tin, *silver, *zinc, *lead, *debye
constant;
A3 B2 C5 D3 E1
*PVT data, isobar, *helium, *liquid, *specific heat, *entropy,
isochore, *density
- 00138 Heat conductivity of neon.
Bannwitz, E.
Ann. Physik 48, 577-92 (1915)
MF No. 77-S A3 B1 C8 D1 E1 F7 G1 S5
*neon, *thermal conductivity, viscosity, *gaseous
- 00143 Isothermals of monatomic gases and their mixtures. XVII.
Isothermals of neon and preliminary determinations concerning
the liquid conditions of neon.
Onnes, H.K. Crommelin, C.A.
Koninkl. Ned. Akad. Wetenschap. Proc. 18, 515-20 (1916)
MF No. 60-M A3 B1 C6 D1 E1 F7 G1 S6
*neon, *liquid, *gaseous, *PVT data, *equation of state,
virial coefficient, *density, *vapor pressure, law of
corresponding states, isotherm, *triple point, *boiling
temperature
- 00184 Heat of vaporization of oxygen in the temperature range
of 80 degrees to 106 degrees K.
Alichanov, R.A.
Soviet Phys. JETP 2, 771-73 (1956) 1 fig 5 ref
MF No. 8-Z A3 B1 C7 D1 E1 F6 G1 S6
*heat of vaporization, *oxygen, *liquid
- 00198 A temperature-entropy diagram for neon.
Troyer, B.D.
Colorado Univ., Boulder, Master Thesis (1959)
72 pp
A3 B1 C1 D1 E F9 G1 S9
*neon, *T-S diagram, *entropy
- 00203 L'etude de la courbe des densites a basse temperature au
Laboratoire cryogene de Leiden. A study of density curves
at low temperatures at the Leiden Cryogenic Laboratory.
Mathias, E.
Physik. Ber. 4, 701-02 (1923)
MF No. 56-U A3 B1 C5 D1 E1 F7 G1 S3
*oxygen, *argon, *nitrogen, *hydrogen, *liquid, *gaseous,
*density, *helium, *neon, law of rectilinear diameters,
critical region, saturated vapor
- 00204 The heat capacities of the elements below room temperature.
Shiffman, C.A.
Gen. Elec. Res. Lab., Schenectady, N.Y. (Oct 1952) 70 pp
264 ref
A2 B1 C5 D1 E2 F8 G5 S2
*aluminum, *beryllium, *bismuth, *cadmium, *carbon, *graphite,
*chromium, *cobalt, *copper, *gallium, *germanium, *gold,
*specific heat, compilation;
A2 B1 C5 D1 E2
*hafnium, *indium, *iridium, *iron, *lead, *lithium, *magnesium,
*manganese, *mercury, *molybdenum, *nickel, *niobium, *specific
heat, compilation;
A1 B1 C5 D1 E1
*bibliography, specific heat, element;
- 00207 Atomic function of some gases in the light of revised
viscosity determinations.
Majumdar, V.D. Oka, V.S.
J. Univ. Bombay 117, No. 25, 35-40 (Mar 1949)
MF No. 73-C A3 B1 C2 D1 E1 F7 G1 49
*viscosity, *air, *hydrogen, *oxygen, *nitrogen, *neon,
*carbon dioxide, *ethane, *methane, *gaseous
- 00211 Funfundzwanzig Jahre Nernst'scher Warmesatz. Twenty-five
year Nernst heat theorem.
Simon, F.E. Whol, K.
Ergeb. exakt. Naturw. 9, 223-74 (1930)
MF No. 62-K A2 B3 C1 D1 E2 F7 G1 S0
*copper, *silver, *nickel, *cobalt, *iron, *silicon, *tin,
*lithium, *sodium, *potassium, *specific heat, *glass;
A3 B3 C5 D1 E2
*helium, *liquid, *density, *melting curve, temperature effect
- 00218 Dieci anni di ricerche sui gas. Sixteen years of research on
gases.
Moles, E.
Gazz. chim. ital. 56, 915-47 (1926) 4 fig 12 tab 49 ref
MF No. 78-Q A3 B5 C2 D1 E1 F7 G1 S6
*density, *oxygen, *air, *nitrogen, *ammonia, *gaseous,
sulfur dioxide, oxide of nitrogen, hydrogen chloride
- 00224 Contributions to the data on theoretical metallurgy. XI.
Entropies of inorganic substances. Revision (1948) of data and
methods of calculation.
Kelley, K.K.
U. S. Bur. Mines Report (1950)
A2 B1 C2 D1 E3 F4 G6 S0
*element, *specific heat, *entropy, *inorganic solid, *oxide,
*intermetallic compound, carbide, nitride, nitrate, silicate,
carbonate, sulphur compound, halide, hydride;
A3 B1 C2 D1 E3
*argon, *neon, *fluorine, *hydrogen, *nitrogen, *oxygen,
*entropy, compilation, *gaseous, *specific heat
- 00225 Intermolecular forces in air.
Friedman, A.S.
J. Res. Natl. Bur. Standards 58, No. 2, 93-94 (1957)
MF No. 37-Z A3 B1 C7 D1 E2 F6 G1 S7
*air, *gaseous, second virial coefficient, *equation of state,
virial coefficient, third virial coefficient, intermolecular
force, Lennard-Jones function;
A3 B1 C7 D1 E2
*oxygen, *nitrogen, *gaseous mixture, *binary system,
*equation of state, second virial coefficient
- 00230 The vapor pressure of liquid nitrogen.
Friedman, A.S. White, D.
J. Am. Chem. Soc., 72, 3931-32 (Sept 1950) 3 fig 3 tab 10 ref
CA 45-1400 MF No. 81-V A3 B1 C7 D1 E1 F6 G1 S0
*vapor pressure, *liquid, *nitrogen, *heat of vaporization,
*boiling point
- 00275 Spezielle Wärme, entropie und dissoziation technischer gas
und dampfe. Specific heat, entropy and dissociation of gases
and vapors.
Justi, E. Luder, H.
Forsch. Gebiete Ingenieurw. 66, No. 5, 209-16 (Oct 1935)
MF No. 70-D A3 B3 C2 D1 E1 F7 G1 S5
*specific heat, *entropy, *thermochemistry, dissociation
constant, *gaseous, *hydrogen, *deuterium, *hydrogen deuteride,
*nitrogen, *oxygen, *carbon monoxide, *air;
A3 B3 C2 D1 E1
*specific heat, *entropy, *thermochemistry, dissociation
constant, *gaseous, *water, heavy water, *inorganic fluid,
oxide of nitrogen, sulphur dioxide
- 00293 Vapor pressure of liquid oxygen and nitrogen.
Dodge, B.F. Davis, H.N.
J. Chem. Soc. 49, 610-20 (1927) 2 fig 6 tab 30 ref
MF No. 63-M A3 B1 C7 D1 E1 F6 G1 S7
*oxygen, *liquid, *gaseous, *nitrogen, *vapor pressure,
*equation of state, *PVT data
- 00318 Regulare losungen von gasen in flussigkeiten. II.
Konzentrierte losungen des wassersstoffs bei hohen
drucken. Regular solutions of gases in liquids. II.
More concentrated solutions of H2 at high pressures.
Gonikberg, M.G.
Acta Physicochim. U.R.S.S. 12, 921-30 (1940) 1 fig 3 tab
14 ref
MF No. 60-X A3 B3 C7 D1 E1 F7 G1 S0
*hydrogen, *nitrogen, *gaseous mixture, *liquid mixture, *binary
system, *chemical potential, fugacity, pressure effect,
*density;
A3 B3 C7 D1 E1
*hydrogen, *methane, *gaseous mixture, *liquid mixture,
*binary system, *density;
- 00332 An investigation of the thermodynamical properties of air
and nitrogen at high pressures and low temperatures. I. The
isothermal Joule-Thomson effect for air and nitrogen.
Ishkin, J.P. Kaganer, M.G.
Soviet Phys. Tech. Phys. 1, 2255-62 (1956)
MF No. 44-U A3 B1 C7 D1 E1 F6 G1 S6
*air, *nitrogen, *gaseous, *Joule-Thomson coefficient,
temperature effect
- 00370 Assembled tables of p-v-t data of gaseous and liquid mixtures.
Teng, W.K.
Wisconsin Univ., Madison, Rept. No. 13 (Aug 1956) Contr. No.
DA-11-022-ORD-994, Proj. No. TB-0001(664) 200 pp 1 fig 3 tab
40 ref
MF No. 97-J A3 B1 C1 D1 E2 F8 G5 S6
hydrogen, *nitrogen, *carbon dioxide, *methane, *hydrocarbon,
*water, *binary system, *PVT data, *critical region,
compressibility factor, *density, *gaseous mixture, *liquid
mixture

- 00374 Die innere reibung von gasen und dampfen und ihre messung im Hoppler-viskosimeter. The viscosity of gas vapors and their measurements in a Hoppler viscosimeter. Wobser, R. Muller, Fr. Kolloid-Beih. 52, 165-276 (1941) 27 fig 122 tab MF No. 72-V A3 B3 C2 D1 E1 F7 G1 41 theory, *viscosity, *oxygen, *nitrogen, *hydrogen, chlorine, *argon, *helium, *neon, *ammonia, *carbon dioxide, *carbon monoxide, *gaseous, *halogen
- 00375 The heat capacity of gases at low pressure using a wire ribbon method. Vanderkooi, W.N. Purdue Univ., Lafayette, Ind. Ph. D. Thesis (Jan 1956) 269 p 33 fig 65 tab 42 ref (Univ. Microfilms, Inc., Ann Arbor, Mich. Publ. No. 16498) MF No. 80-L A5 B1 C2 D1 E1 F9 G7 56 *helium, *neon, *argon, *hydrocarbon, halide, *specific heat, *accommodation coefficient, *gaseous
- 00378 The physical properties of solid and liquid helium. Satterly, John. Rev. Mod. Phys. 8, 347-57 (Oct 1936) 18 fig 1 tab 19 ref MF No. 62-A A3 B1 C5 D1 E2 F6 G1 36 *helium, *liquid, *thermodynamic property, *density, coefficient of expansion, *surface tension, *viscosity, *compressibility, *electrical property, *velocity of sound, *refractive index, *solidified gas, *entropy, *thermal conductivity
- 00405 Density of liquefied gas solutions nitrogen-oxygen and argon-oxygen. Blagoi, Yu.P. Rudenko, N.S. Izvest. Vysshikh Ucheb. Zavenden. Fiz. No. 6, 145-51 (1958) 2 fig 5 tab 13 ref MF No. 72-W A3 B7 C7 D E F7 G1 *liquid mixture, *density, *oxygen, *nitrogen, *binary system, *argon
- 00406 The thermal conductivity of liquid and gaseous oxygen. Burton, J.T.A. Ziehlend, H. Gt. Brit. Ministry of Supply, Rept. No. E.R.D.E. 2/RS6 (Jan 1956) 11 pp 4 fig 3 tab 15 ref MF No. 75-H A3 B1 C7 D E1 F5 G5 *oxygen, *liquid, *gaseous, *thermal conductivity, temperature effect
- 00407 Vapor-pressure of the deuterio-methanes. Armstrong, G.T. Brickwedde, F.W. Scott, R.B. J. Chem. Phys. 21, 1297-98 (1953) A3 B1 C7 D1 E1 F6 G1 *methane, *deutero compound, deutero methane, *vapor pressure, *triple point, *liquid, *solidified gas, saturated liquid
- 00408 Vapor pressure of nitrogen. Armstrong, G.T. J. Research Natl. Bur. Standards 53, No. 4, 263-66 (Oct 1954) R2543, 1 fig 4 tab 11 ref A3 B1 C7 D1 E1 F6 G1 *nitrogen, *vapor pressure, *liquid, fugacity, saturated vapor
- 00411 Coefficient of expansion of liquid helium II. Atkins, K.R. Edwards, M.H. Phys. Rev. 97, No. 6, 1429-34 (Mar 15, 1955). A3 B1 C4 D3 E2 F6 G1 55 *helium, *liquid, helium I, thermal expansion, temperature effect, *expansivity
- 00418 The viscosity of the normal part of liquid helium II from heat conduction experiments. Van Groenou, A.B. Foli, J.D. Delsing, A.M.G. Gorter, C.J. Physica 22, 905-10 (Oct 1956) Commun. Kamerlingh Onnes Lab. Univ., Leiden, No. 304f (1956) 6 pp CA 52 9690 A3 B1 C5 D1 E1 F6 G1 *helium, helium I, *liquid, *viscosity, *thermal conductivity
- 00419 Joule-Thomson effects in compressed gaseous hydrogen. Cawky, P. White, D. Johnston, H.L. Ohio State Univ., Res. Foundation, Cryogenic Lab. Columbus, Tech. Rept. 264-18 (May 1952) Contr. No. AF W33-038-ac-14794 (16243) ASTIA ATI 162 586 A3 B1 C1 D1 E1 F5 G5 *hydrogen, *gaseous, *enthalpy, table, apparatus, coolant, air, nitrogen, oxygen, freon, joule-thomson cooling
- 00420 Pressure-volume isotherms of He4 below 4.2 degrees K. Keller, W.E. Phys. Rev. 97, No. 1, 1-8 (Jan 1955) 6 fig 3 tab 17 ref CA 48 5911 A3 B1 C5 D1 E1 F6 G1 *helium, helium 4, *gaseous, *PVT data, isotherm, *liquid, *density, *equation of state, second virial coefficient, pressure effect
- 00421 Melting curves of deuterium and hydrogen. Chester, P.F. Dugdale, J.S. Phys. Rev. 95, 278-79 (1954) 1 fig 1 tab 3 ref A3 B1 C1 D1 E1 F6 G1 *melting curve, *deuterium, *hydrogen
- 00424 Joule-Thomson effects in deuterium at liquid air and at room temperatures. Johnston, H.L. Swanson, C.A. Wirth, H.E. J. Am. Chem. Soc. 68, 2373-77 (Nov 1946) MF No. 67-Y A3 B1 C1 D1 E1 F6 G1 *deuterium, *hydrogen, *isotope, *joule-thomson coefficient, cryogenic temperature
- 00425 Liquid helium vapor-pressure temperature scale. Clement, J.R. Naval Research Lab., Washington, D.C., 7 p 12 ref A3 B1 C1 D1 E2 F7 09 00 *helium, *vapor pressure, *liquid, temperature scale
- 00426 Die spezifischen Warmen des Parawasserstoffs in festem, flussigem und gasformigen Zustande. The specific heat of parahydrogen in solid, liquid and gas state. Clusius, K. Hiller, K. Z. Physik Chem. (Leipzig) 84, 158-68 (1929) MF No. 3-W A3 B3 C6 D1 E1 F7 G1 *parahydrogen, *specific heat, *liquid, *gaseous, *heat of fusion, *solidified gas
- 00427 Isotherms of di-atomic substances and their binary mixtures. XXX. On the isotherms of hydrogen from -217 degrees to -240 degrees C at pressures up to 60 atmospheres. Crommelin, C.A. Swallow, J.C. Commun. Kamerlingh Onnes Lab. Univ. Leiden No. 172a, 1-9 (Jun 1924) and Proc. of the Fourth Intern. Congr. of Refrig., London, 1924, 53a-55a MF No. 124-A A3 B1 C1 D1 E1 F7 G1 *hydrogen, *isotherm, *PVT data
- 00428 The vapour pressures of solid and liquid neon. Crommelin, C.A. Gibson, R.O. Commun. Kamerlingh Onnes Lab. Univ. Leiden 17, No. 185b, 18-20 (1927) A3 B1 C6 D1 E1 F7 G1 *neon, *liquid, *vapor pressure, temperature effect, *solidified gas, saturated liquid
- 00429 Density and viscosity of normal fluid in dilute solutions of He3 in He4. Dash, J.G. Taylor, R.D. Phys. Rev. 107, 1228-37 (Sept 1957) A3 B1 C1 D1 E1 F6 G1 *helium, *liquid, helium 3-helium 4, helium 4, *density, *viscosity, concentration effect
- 00434 Thermal conductivity of solid argon at low temperatures. White, G.K. Woods, S.R. Nature 177, 851-52 (1956) MF No. 84-J A3 B1 C5 D3 E1 F7 G1 56 *thermal conductivity, *argon, *solidified gas, equation
- 00435 Specific heats of pure He4 and of a mixture of He4 with 2.50% of He3 between 1 degree K and 2.3 degrees K. Dokoupil, Z. Van Soest, G. Wansink, D.H.N. Kapadnis, D.G. Commun. Kamerlingh Onnes Lab., Univ. Leiden, No. 298a (1955) Reprint from Physica 20, 1181 (1954) A3 B1 C5 D1 E1 F7 G1 *specific heat, *helium, *liquid, *liquid mixture, helium 3-helium 4, lambda temperature, helium 4, saturated liquid, temperature effect
- 00441 Calculating properties of gases and gas mixtures. Granet, Irving. Petrol. Refiner 32, 125-28 (1953) 3 fig 4 tab 26 ref A3 B1 C2 D1 E2 F6 G1 *gaseous, *gaseous mixture, *nitrogen, *thermal conductivity, *viscosity, *reduced variable, law of corresponding states, equation, calculation
- 00442 IV. Vapor pressure, specific volume, PVT data for H2, N2, O2, CO, CO2, air, He, A, Hg. Gratch, Serge. Trans. Am. Soc. Mech. Engrs. 70, 631-40 (1948) 9 fig 1 tab 154 ref MF No. 36-S A3 B1 C1 D1 E2 F6 G1 *hydrogen, *nitrogen, *helium, *argon, *oxygen, *carbon monoxide, *carbon dioxide, *air, *compressibility, *gaseous, *equation of state, *review, *liquid, vapor pressure, *gaseous mixture, *binary system
- 00444 The vapor pressure of hydrogen, deuterium and tritium up to 3 atm. Grilly, E.R. J. Am. Chem. Soc. 73, 843-6 (1951) 2 fig 5 tab 12 ref MF No. 17-V A3 B1 C1 D1 E1 F6 G1 *hydrogen, *liquid, *vapor pressure, *deuterium, *tritium, *isotope, law of corresponding states
- 00446 Relationships between transport properties of gases. Grilly, E.R. Am. J. Phys. 20, 447-50 (1952) 3 fig 12 ref A3 B1 C7 D1 E2 F6 G1 *gaseous, *thermal conductivity, *viscosity, *specific heat, *helium, *hydrogen, *oxygen, *carbon monoxide, *carbon dioxide, *methane, oxide of nitrogen, prandtl number
- 00447 Volume change on melting of N2 up to 3500 kg/cm2. Grilly, E.R. Mills, R.L. Phys. Rev. 105, No. 4, 1140-45 (Feb 1957) 4 fig 2 tab 24 ref A3 B1 C1 D1 E1 F6 G1 *nitrogen, *melting curve, *density, *expansivity, *solidified gas, *liquid, coefficient of expansion
- 00449 Some calculated properties of tritium. Hammel, E.F. J. Chem. Phys. 18, No. 2, 226-29 (1950) 3 fig 3 tab 3 ref CA 44 6215b A3 B1 C1 D1 E3 F6 G1 *tritium, *deuterium, *liquid, *vapor pressure, *critical constants, *triple point

- 00450 The viscosity of compressed gases.
Leipunsky, O.
Acta Physicochim. U.R.S.S. 18, 172-82 (1943)
MF No. 29-C A3 B1 C2 D1 E2 F7 G1
*viscosity, *gas, *pressure, *mixture, *compressed gas, *nitrogen,
*hydrogen, *carbon dioxide, *carbon monoxide, *oxygen, *ammonia,
*methane, *water vapor, Enskog's formula
- 00453 Tables of thermal properties of gases
Hilsenrath, J. Beckett, C.W. Benedict, W.S. Fano, L. Hoge, H.J.
Masi, J.F. Nuttall, R.L. Touloukian, Y.S. Woolley, H.W.
Natl. Bur. Standards Circ. 564 (Nov 1955) 209 ref
A3 B1 C6 D1 E1 F4 G6
*technical gas, *argon, *steam, *compressibility factor,
*density, *specific heat, *enthalpy, *entropy, *velocity of sound,
*viscosity, thermal conductivity, *gaseous, prandtl number
- 00454 Vapor pressures of hydrogen, deuterium, and hydrogen
deuteride and dew-point pressures of their mixtures.
Hoge, H.J. Arnold, R.J.
J. Res. Natl. Bur. Standards 47, No. 2, 63-74 (Aug 1951)
RP 2228, 6 fig 10 tab 16 ref
A3 B1 C6 D1 E1 F6 G1
*hydrogen, *deuterium, *hydrogen deuteride, *vapor pressure,
*parahydrogen, orthodeuterium, *triple point, *liquid,
saturated liquid, *liquid mixture, *ternary system, dew point
- 00455 Vapor pressure and fixed points of oxygen and heat capacity
in the critical region
Hoge, H.J.
J. Research Natl. Bur. Standards 44, 321-45 (1950) RP 2081
A3 B1 C6 D1 E1 F6 G1
*oxygen, *specific heat, *vapor pressure, *liquid, *solidified
gas, critical region, triple point, boiling point, *thermometry,
fixed points, *hydrogen, *nitrogen, temperature scale
- 00457 An equation of state in analytical form
Ishikawa, Tetuya
Bull. Chem. Soc. Japan 26, No. 2, 78-83 (1953) 2 fig 6 tab
9 ref
MF No. 35-L A3 B1 C8 D1 E2 F7 G1
*equation of state, *carbon dioxide, *xenon, *hydrocarbon,
*gaseous, *inert gas, *technical gas, pressure, van der Waals,
*neon
- 00458 Measurements of the viscosity of helium gas at liquid helium
temperatures as a function of temperature and pressure.
Van Itterbeek, A. Schapink, F.W. Van den Berg, G.J.
Van Keek, H.J.M.
Physica 14, 1158-62 (1953)
CA 48 11154h A3 B1 C5 D1 E1 F6 G1 53
*helium, *viscosity, *gaseous, temperature effect, pressure
effect
- 00459 Measurements on the 2nd virial coefficient of nitrogen between
90 and 64 degrees K with the use of ultrasonics.
Van Itterbeek, A. Lambert, H. Forrez, G.
Appl. Sci. Research 46, 15-20 (1955)
MF No. 121-C A3 B1 C1 D1 E1 F7 G1 55
*equation of state, *nitrogen, *virial coefficient, second virial
coefficient, velocity of sound, specific heat, Lennard-Jones
function
- 00461 Difference in viscosity of ortho and para-hydrogen at low
temperatures.
Becker, E.W. Stehl, O.
Phys. Rev. 67, 525 (1952) 1 fig 2 ref
MF No. 38-T A3 B1 C6 D3 E1 F6 G1 52
*hydrogen, *viscosity, *gaseous, normal hydrogen, *parahydrogen,
temperature effect
- 00462 The triple point of carbon dioxide as a thermometric fixed
point
Ambrose, D.
Brit. J. Appl. Phys. 8, 32-34 (Jan 1957) 2 fig 8 ref
MF No. 67-U A3 B1 C8 D1 E1 F7 G1
*carbon dioxide, *triple point, *solidified gas, *liquid,
*gaseous
- 00463 Joule-Thomson effects in hydrogen at liquid air and at room
temperatures.
Johnston, H.L. Bezman, I.I. Hood, C.B.
J. Am. Chem. Soc. 68, 2367-73 (Nov 1946)
A3 B1 C1 D1 E1 F6 G1
*hydrogen, *joule-thomson coefficient, *specific heat, high
pressure
- 00464 VII. A summary of experimental determination of Joule-
Thomson effects in gases.
Johnston, H.L. White, D.
Trans. Am. Soc. Mech. Engrs. 70, 651-5 (1948) 56 ref
MF No. 67-D A3 B1 C8 D2 E2 F6 G1
*joule-thomson effect, *technical gas, *inert gas, *hydrocarbon,
review, bibliography, *gaseous
- 00469 Thermodynamic properties of nitrogen as functions of pressure
and temperature between 0 and 6000 atmospheres and -125 degrees
and 150 degrees C.
Lunbeck, R.J. Michels, A. Walkers, G.J.
Appl. Sci. Res. 3, 197-210 (1952)
MF No. 29-Y A3 B1 C8 D1 E F7 G1
*nitrogen, *PVT data, *entropy, *enthalpy, *specific heat,
*joule-thomson coefficient, high pressure
- 00470 Temperature dependence of viscosity liquid argon.
Zhdanova, N.F.
Soviet Phys. JETP 4, No. 5, 749-50 (Jun 1957) 2 fig 1 tab
4 ref (Trans. from: Zhur. Eksp. i Teoret. Fiz. 31, 724-5,
1956)
MF No. 78-A A3 B1 C7 D1 E1 F6 G1 57
*argon, *viscosity, *liquid, *gaseous, *density, temperature
effect, isochore
- 00471 Calculation of the viscosity of gaseous He3 and He4 at low
temperatures.
Keller, W.E.
Phys. Rev. 106, 41-45 (1957)
MF No. 38-P A3 B1 C5 D1 E1 F6 G1 57
*helium, *gaseous, theory, *viscosity, helium 3, helium 4,
equation, temperature effect
- 00473 Density of liquid He4.
Kerr, E.C.
J. Chem. Phys. 26, 511-14 (1957)
MF No. 49-T A3 B1 C5 D1 E1 F6 G1
*helium, *liquid, *density, helium 4, saturated liquid
- 00475 Physical property measurements at low temperatures.
Kerr, E.C.
Proc. Instr. Soc. Am. 10, Part 2 (1955) Paper No. 55-2-4
A3 B1 C1 D1 E1 F6 G1
*melting curve, *helium, *isotope, *deuterium, *neon, *oxygen,
*nitrogen, *hydrogen, density, helium 3, cryostat
- 00476 Molar volumes of liquid deuterium and of a 1:1 mixture of
tritium and deuterium 19.5 to 24.5 degrees K.
Kerr, E.C.
J. Am. Chem. Soc. 74, 824-25 (1952)
A3 B1 C6 D1 E1 F6 G1
*deuterium, *tritium, *density, *liquid, *liquid mixture,
*binary system
- 00478 Second virial coefficients of He3 and He4.
Kilpatrick, J.E. Keller, W.E. Hammel, E.F. Metropolis, N.
Phys. Rev. 94, No. 5, 1103-10 (Jun 1954) 5 fig 1 tab
18 ref
A3 B1 C4 D1 E2 F6 G1 54
*helium, *gaseous, *equation of state, Lennard-Jones function,
second virial coefficient, helium 3, helium 4
- 00479 Isotherms of helium gas from 2.7 to 1.7 degrees K.
Kistemaker, J. Keesom, W.H.
Physica 12, 227-40 (Jul 1946) 5 fig 4 tab 13 ref Reprint from
Commun. Kamerlingh Onnes Lab., Univ. Leiden, No. 269 b (1946)
A3 B1 C5 D1 E1 F6 G1
*helium, *gaseous, *PVT data, compressibility factor, *density,
isotherm, *equation of state, second virial coefficient,
virial coefficient, third virial coefficient
- 00480 The vapour pressure of liquid helium from the lambda point to
1.3 degrees K.
Kistemaker, J.
Physica 12, 272-80 (Aug 1946) 5 tab 13 ref, Reprint from
Commun. Kamerlingh Onnes Lab., Univ. Leiden, No. 269 c (1946)
A3 B1 C5 D1 E1 F6 G1
*helium, *liquid, *vapor pressure, lambda temperature
- 00482 Compressions and solid phases of CO2, CS2, COS, O2, and CO.
Stevenson, R.
J. Chem. Phys. 27, No. 3, 673-75 (1957)
A3 B1 C7 D3 E1 F6 G1 57
*carbon dioxide, *inorganic solid, carbon disulfide, carbon
oxysulfide, *oxygen, *carbon monoxide, *solidified gas, *phase
transition property, solid-solid transition, *phase diagram,
pressure effect
- 00483 Vapor-liquid equilibria of nitrogen-argon-oxygen mixtures
Latimer, R.E.
Am. Inst. Chem. Engrs. J. 3, No. 1, 75-82 (Mar 1957) 12 fig
3 tab 10 ref
MF No. 58-L A3 B1 C7 D1 E2 F6 G1
*phase equilibria, *nitrogen, *argon, *oxygen, *liquid mixture,
*binary system, *ternary system, *vapor pressure
- 00484 Some thermal constants of solid and liquid carbon dioxide.
Maass, O. Barnes, W.H.
Proc. Roy. Soc. (London) A111, 224-44 (1926)
MF No. 41-K A3 B1 C7 D1 E1 F6 G1
*carbon dioxide, *specific heat, *liquid, *solidified gas, heat
of fusion, heat of sublimation, *enthalpy, *density, *coefficient
of expansion
- 00485 Survey of experimental determinations of heat capacity of ten
technically important gases
Masi, J.E.
Trans. Am. Soc. Mech. Engrs. 76, 1067-74 (1954) 8 fig 2 tab
53 ref
CA 48-13308f MF No. 42-L A3 B1 C7 D1 E2 F6 G1
*specific heat, *ammonia, *carbon dioxide, *carbon monoxide,
*hydrogen, *methane, *nitrogen, *oxygen, *water, oxide of
- 00486 The rectilinear diameter of hydrogen.
Mathias, E. Crammelin, C.A. Onnes, H.K.
Commun. Phys. Lab. Univ. Leiden No. 154b (1921)
A3 B1 C6 D1 E1 F6 G1
*hydrogen, *liquid, *gaseous, *density, saturated liquid,
saturated vapor, law of rectilinear diameter

- 00487 The density and compressibility of solid hydrogen and deuterium at 4.2 degrees K.
Mogsw, H.D.
Phil. Mag. 28, 129 (1933)
MF No. 41-I A3 B1 C5 D1 E1 F6 G1 39
*helium, *liquid, *density, pressure effect, *compressibility;
A3 B1 C5 D1 E1
*hydrogen, *deuterium, *solidified gas, *density, *compressibility,
*expansivity, thermal expansion, pressure effect
- 00488 Pressure-volume-temperature data for oxygen.
Meyers, C.H.
J. Res. Natl. Bur. Standards 40, 457-66 (1948)
A3 B1 C7 D1 E3 F6 G1
*oxygen, *PVT data, *gaseous, *equation of state, virial
coefficient, second virial coefficient, third virial coefficient,
compressibility factor, *density
- 00490 Melting curves of He, He3, He4, D2, Ne, N2, and O2 up to 3500 kg/cm2
Mills, R.L. Grilly, E.R.
Phys. Rev. 99, No. 2, 480-96 (Jul 1955) 6 fig 2 tab 31 ref
CA 49-15329-1 MF No. 159-I A3 B1 C5 D3 E1 F6 G1
*melting curve, *helium, *deuterium, *neon, *nitrogen, *oxygen,
*phase transition property, helium 3, helium 4, very high pressure,
*solidified gas, equation, pressure effect
- 00492 Second virial coefficients of helium from the exp-six potential.
Kilpatrick, J.E. Keller, W.E. Hammel, E.F.
Phys. Rev. 97, No. 1, 9-12 (Jan 1955) 3 fig 3 tab 8 ref
A3 B1 C1 D1 E1 F6 G1 55
*helium, virial coefficient, *gaseous, *equation of state,
intermolecular force, second virial coefficient, helium 3,
helium 4
- 00493 Isothermals of di-atomic substances and their binary mixtures. XIX. A preliminary determination of the critical point of hydrogen.
Onnes, H.K. Crommelin, C.A. Cath, P.G.
Communs. Kamerlingh Onnes Lab. Univ. Leiden No. 151c, 25-32
(May 1917) 1 fig 3 tab 12 ref Trans. from Verslag. Gewone
Vergader. Afdel. Natuurk. Koninkl. Ned. Akad. Wetenschap.
26, 124-29 (May 1917)
MF No. 171-I A3 B1 C6 D1 E1 F7 G1
saturated liquid, saturated vapor, *hydrogen, *critical constant,
*liquid, *gaseous, *density, critical temperature, critical
pressure, critical density, *vapor pressure
- 00494 Isotherms of diatomic substances and of their binary mixtures. XII. The compressibility of hydrogen vapour at, and below, the boiling point.
Onnes, H.K. De Haas, W.J.
Communs. Phys. Lab. Univ. Leiden No. 127 c (May 1912)
MF No. 122-D A3 B1 C6 D1 E1 F7 G1 12
*equation of state, *hydrogen, virial coefficient, *gaseous,
*PVT data, compressibility factor, *density
- 00502 Measurement of the elasticity of solid argon by ultrasonic methods.
Barker, J.R. Dobbs, E.R. Jones, G.O.
Phil. Mag. 44, 1182-84 (1953)
MF No. 121-H A3 B1 C7 D1 E1 F6 G1 53
*argon, *solidified gas, *compressibility, *expansivity,
mechanical property
- 00508 Temperature-entropy diagrams for hydrogen, nitrogen, carbon monoxide, ethane, and ethylene.
Bolshakov, P.E. Gemburg, D.Yu. Yefremova, G.D. Khazanova, D.S. Tsiklis, D.S.
Referat. Zhur. Fiz. No. 7-9, Abstract No. 13635, 96 (1955)
MF No. 65-H A3 B1 C6 D1 E2 F7 G1 55
*hydrogen, *nitrogen, *carbon monoxide, *ethane, *ethylene,
*gaseous, *entropy, T-S diagram
- 00509 Measurement of the elasticity of solid argon with an ultrasonic interferometer.
Barker, J.R. Dobbs, E.R.
Phil. Mag. 45, 1069-80 (Oct 1955) 23 ref
MF No. 44-S A3 B1 C7 D1 E1 F6 G1 55
*argon, *solidified gas, *compressibility, *expansivity,
mechanical property, gruneisen parameter
- 00513 Temperature-entropy chart of thermodynamic properties of nitrogen.
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*entropy, *enthalpy, *gas, *liquid
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CA 25 2612 MF No. 51-N A3 B1 C1 D1 E1 F6 G1
*equation of state, *hydrogen, *compressibility factor,
*density, beattie-bridgeman equation of state *PVT data
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*enthalpy, *entropy, *gaseous, *hydrogen, *oxygen, *nitrogen,
*carbon monoxide, *carbon dioxide, *water, review, compilation
- 00523 The heat conductivity of solid methane.
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MF No. 28-O A3 B1 C1 D1 E1 F6 G1
*methane, *thermal conductivity, *transition temperature, solid
- 00527 The heat capacity of oxygen from 12 degrees K to its boiling point and its heat of vaporization. The entropy from spectroscopic data.
Giauque, W.F. Johnston, H.L.
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*oxygen, *specific heat, *transition range, *heat of fusion,
*heat of vaporization, *entropy, *magnetic property, para-
magnetism, magnetic susceptibility, spectroscopic data
- 00530 The viscosity of gas mixtures.
Heath, H.R.
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MF No. 38-W A3 B1 C2 D1 E1 F7 G1
*helium, *hydrogen, *viscosity, *gaseous mixture, *argon,
*nitrogen, *carbon dioxide, low pressure, diffusion
- 00534 Structure of solid helium by neutron diffraction.
Henshaw, D.G.
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*helium, *solidified gas, *density, *compressibility, crystal
structure
- 00535 The zero-point kinetic energy of liquid helium.
Henshaw, D.G. Hurst, D.G.
Can. J. Phys. 33, 797-800 (1955) 3 tab 6 ref
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zero point, energy, *helium, *liquid, *heat of vaporization,
diffraction
- 00536 The variation with temperature of the surface energies and densities of liquid oxygen, nitrogen, argon, and CO.
Baly, E.C.C. Donnan, F.G.
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MF No. 62-V A3 B1 C1 D1 E1 F6 G1 02
*oxygen, *liquid, *nitrogen, *argon, *carbon monoxide,
*surface tension, surface energy, *density
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MF No. 38-R A3 B1 C1 D1 E1 F6 G1
*ozone, *liquid, *viscosity, *melting point, *surface tension,
*mixture, *oxygen
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Meron, S.H. Turnbull, D.
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*equation of state, *critical constants, *hydrogen, *helium,
*carbon monoxide, *carbon dioxide, *oxygen, *ethylene, high
pressure, nitric oxide, *gaseous, *methane, *propane, *ethane
- 00544 The viscosity of argon at pressures up to 2000 atmospheres.
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*argon, *viscosity, *gaseous, pressure effect, very high pressures,
density
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MF No. 38-K A3 B1 C2 D1 E1 F6 G1
*carbon dioxide, *gaseous, *viscosity, *liquid, pressure
dependence, *density
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MF No. 38-M A3 B1 C8 D1 E1 F6 G1 53
pressure effect, *viscosity, *hydrogen, *deuterium, *gaseous,
high pressure
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Rhodes, E.J.Jr.
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*velocity of sound, *hydrogen, *ortho-para hydrogen, dispersion,
rotation
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Izvest. Vsesoyuz. Teplolekhn. Inst. im. Feliksa Dzerzhinskogo
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*internal energy, *entropy

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Sherman, R.H. Glaugue, W.F.
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Buseiiron Kenkyu **62**, 135-51 (1953) 2 tab 2 ref
CA 48-7367g MF No. 52-M A3 B1 C1 D1 E2 F7 G1
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- 00565 The equation of state of hydrogen and its isotopes below 20 degrees K.
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MF No. 74-L A3 B1 C6 D3 E1 F7 G1 S6
second virial coefficient, *equation of state, *hydrogen, *deuterium, *helium, *gaseous
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MF No. 97-K A3 B1 C1 D1 E1 F6 G1
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Bennewitz, K. Andreeve, N.
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*nitrogen, *oxygen, *methane, *isotherm, *gaseous, *argon, *carbon dioxide, *liquid, *internal energy, *joule-thomson coefficient, critical region, reduced variable, density
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Webb, F.J. Wilks, J.
Phil. Mag. **44**, 664-74 (1953) 5 fig 8 ref
MF No. 49-Z A3 B1 C5 D1 E1 F6 G1
*thermal conductivity, *helium, density, high pressure, *solidified gas
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Andrussov, Leonid
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MF No. 34-W A3 B3 C1 D1 E1 F7 G1
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- 00592 Über die Wärmeleitfähigkeit der Gase. The heat conductivities of gases
Weber, Sophus
Ann. Physik **82**, 479-503 (1927) 1 fig 14 tab 25 ref
MF No. 78-L A3 B3 C2 D1 E1 F7 G1
*thermal conductivity, *argon, *neon, *helium, *hydrogen, *nitrogen, air, *methane, *carbon dioxide, *gaseous
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MF No. 39-C A3 B1 C8 D1 E1 F6 G1 46
*velocity of sound, *hydrogen, *gaseous, *physical property, sound absorption
- 00604 Die Reibung, Wärmeleitung und Diffusion in Gemischungen, XI. Die Reibung von H₂, N₂, CO, C₂H₄, O₂ und ihren binären Gemischen. Viscosity, heat conduction, and diffusion in gas mixtures, XI. The viscosities of H₂, N₂, CO, C₂H₄, O₂, and their binary mixtures.
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MF No. 84-X A3 B3 C8 D1 E1 F7 G1 S0
*hydrogen, *nitrogen, *carbon monoxide, ethylene, *oxygen, *gaseous mixture, *thermal conductivity, diffusion, *viscosity, binary system, ternary system, argon, neon, helium
A3 B3 C8 D1 E1
*hydrogen, *nitrogen, *carbon monoxide, *ethylene, *oxygen, *gaseous, *viscosity;
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Svenson, C.A.
J. Chem. Phys. **23**, 1963-64 (1955)
A3 B1 C1 D1 E2 F6 G1 S5
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- 00615 Die reibung, wärmeleitung und diffusion in gasmischungen XII. Gasreibung bei höheren temperaturen. The viscosity, conduction of heat, and diffusion of gas mixtures XII. The viscosity of gases at high temperatures.
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MF No. 78-B A3 B3 C2 D1 E F7 G1 S0
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- 00616 Computation of thermodynamic properties of compressed gaseous hydrogen based on Joule-Thomson effect measurement.
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Ohio State Univ. Res. Foundation, Cryogenic Lab., Columbus, Tech. Rept. No. TR 264-21 (Jun 1952) Contr. No. AF W33-038-ac-14794C16243 16 p 3 tab 2 ref
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MF No. 90-E A3 B3 C2 D1 E1 F7 G1
pressure, *thermal conductivity, *hydrogen, *helium, *argon, *nitrogen, *methane, *oxygen, carbon monoxide, carbon dioxide, oxide of nitrogen, *neon, *gaseous
- 00618 Die reibung, wärmeleitung und diffusion in gasmischungen. II. Die reibung von H₂ - N₂ und H₂ - CO - gemischen. Viscosities of H₂ - N₂, and H₂ - CO. Mixtures.
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*hydrogen, *nitrogen, *carbon monoxide, *viscosity, *gaseous mixture, binary system, diffusion
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Widom, B. Rice, O.K.
J. Chem. Phys. **23**, 1250-55 (1955) 7 fig 10 ref
A3 B1 C6 D3 E2 F6 G1
*rare gas, xenon, *carbon dioxide, *hydrogen, *gaseous, *critical constants, critical temperature, isotherm, isobar, *PVT data, liquid-vapor equilibrium, *phase equilibrium, *critical region
- 00622 Zur Kenntnis des Joule-Thomson-Effektes in Wasserstoff. On the knowledge of the Joule-Thomson effect in hydrogen.
Boehr, H.D.
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- 00625 Equations of state for liquid helium.
Borelius, G.
Arkiv Fysik **13**, 369-78 (1958) 5 fig 12 ref
MF No. 49-G A3 B1 C5 D1 E2 F7 G1
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J. Sci. Ind. Research (India), **13B**, 595-97 (Sep 1954) 3 tab 11 ref
CA 49 9340c MF No. 42-P A3 B1 C2 D1 E1 F7 G1 S4
*nitrogen, *oxygen, *water, *carbon dioxide, *gaseous, *specific heat, *gaseous mixture, calculation, equation

- 00628 Theoretische und experimentelle untersuchungen über die wärmeleitfähigkeit von gasgemischen. Theoretical and experimental researches on thermal conductivity of gas mixtures.
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MF No. 77-Z A3 B3 C8 D1 E1 F7 G1 17
*hydrogen, *carbon dioxide, *gaseous mixture, *binary system, *thermal conductivity, concentration effect;
A3 B3 C8 D1 E1
*nitrogen, *argon, *gaseous mixture, *binary system, *thermal conductivity, concentration effect
- 00631 The second virial coefficient of carbon-dioxide at low temperatures
Cook, D.
Can. J. Chem. **35**, 268-75 (1957) 4 fig 1 tab 6 ref
MF No. 126-I A3 B' C8 D E F7 G1
*carbon dioxide, *virial coefficient, second virial coefficient, *gaseous
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Edwards, M.H.
Can. J. Phys. **36**, 884-98 (1958)
MF No. 49-C A3 B1 C5 D1 E1 F7 G1 58
*helium, *liquid, *refractive index, *gaseous, helium 4, saturated vapor, lambda temperature, thermal expansion
- 00633 The specific heats of certain gases over wide ranges of pressures and temperatures
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A3 B1 C8 D E F8 G5
*ethylene, *gaseous, *specific heat, *air, *hydrogen, *nitrogen, *oxygen, *carbon dioxide, *carbon monoxide, *methane
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Friedman, A.
Ohio State Univ., Columbus, Ph.D. Thesis (1950) 212 pp
MF No. 37-U A3 B1 C6 D1 E1 F9 G7 50
*hydrogen, normal hydrogen, *liquid, *vapor pressure, *nitrogen, saturated liquid, equation;
A3 B1 C6 D1 E1
*hydrogen, *nitrogen, *gaseous, *gaseous mixture, *binary system, *PVT data, compressibility factor, isotherm, *equation of state, second virial coefficient, third virial coefficient, virial coefficient, intermolecular force, Lennard-Jones function
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CA 9 3006 MF No. 50-O A3 B1 C8 D1 E1 F6 G1 15
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Guillien, Robert
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CA 34-31459 MF No. 36-P A3 B2 C2 D1 E1 F7 G1
*dielectric constant, *nitrogen, *hydrogen, *melting curve, *oxygen, *liquid, toluene, carbon tetrachloride, carbon disulfide, xylene, solid, temperature effect
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Himpan, Joseph
Monatsh. Chem. **84**, 787-97 (1953) 5 fig 1 tab 10 ref
CA 48-3740h MF No. 48-U A3 B3 C2 D1 E2 F7 G1
*gaseous, *liquid, *equation of state, *nitrogen, *water, *carbon dioxide, *specific heat, PVT measurements
- 00645 Condensed gas calorimetry. II. Heat capacity of ortho-deuterium between 13.1 and 23.6 degrees K melting and boiling points, heats of fusion and vaporization. Vapor pressure of liquid ortho-deuterium
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CA 45, 4543d MF No. 159-N A3 B1 C6 D1 E1 F6 G1
*deuterium, orthodeuterium, *liquid, *solidified gas, saturated liquid, *specific heat, *heat of fusion, *heat of vaporization, *vapor pressure, *entropy, temperature effect
- 00649 Untersuchungen über das heterogene Gleichgewicht Flüssigkeit-Dampf II. B rechner der Dichten von Flüssigkeit und Dampf sowie des erforderlichen Füllungsgrades des Autoklaven beim Arbeiten mit Flüssigkeiten bei hohen Temperaturen und hohen Drucken. The heterogeneous equilibrium liquid-vapor I. Calculation of density of liquid and vapors as well as the necessary degrees of filling the autoclave in the work with liquids at high temperatures and pressures
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CA 48, 73671 MF No. 33-S A3 B3 C1 D1 E1 F7 G1
*hydrogen, *acetylene, *density, *liquid, *vapor, *gas, *heterogeneous equilibrium, carbon tetrachloride, octane, sulfur dioxide, phase equilibrium, paraffin
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Kramer, G.M. Miller, J.G.
J. Phys. Chem. **61**, 785-88 (1957)
MF No. 42-U A3 B1 C2 D1 E2 F6 G1 57
*compressibility, *virial coefficient, *gaseous mixture, *helium, *nitrogen, second virial coefficient, third virial coefficient
- 00652 Celerite du son dans les Gaz sous Pression et Coefficients du Viriel. The velocity of sound in gases under pressure and virial coefficients
Lacm, A. Bergeon, R.
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MF No. 37-B A3 B2 C2 D1 E1 F7 G1
*velocity of sound, *argon, *nitrogen, *methane, *gaseous, virial coefficient
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- 00655 Über schallgeschwindigkeitsmessungen in flüssigem argon. The velocity of sound measurements in liquid argon.
Liepmann, H.W.
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- 00657 Modern thermodynamics.
Ubbelohde, A.R.
Uspekhi Fiz. Nauk **20**, 281-316 (1938)
MF No. 69-T A3 B7 C2 D1 E2 F7 G1
*specific heat, *entropy, mathematical analysis, *free energy, *hydrogen, *hydrogen deuteride, *deuterium, *gaseous
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Lutz, O.
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CA 46-8440b MF No. 34-R A3 B3 C2 D1 E2 F7 G1
*entropy, *enthalpy, *carbon monoxide, *oxygen, *hydrogen, *water, *nitrogen, *carbon dioxide, *gaseous, equilibrium constants, oxide of nitrogen
- 00660 Development of an equation of state for gases.
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*gaseous, *equation of state, *reduced variable, law of corresponding states, *carbon dioxide, *water, *nitrogen, *inorganic fluid, hydrogen sulfide, *propane, *hydrocarbon, propylene, *organic fluid, benzene
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Nuttall, R.L. Ginnings, D.C.
J. Res. Natl. Bur. Standards **58**, No. 5, 271-78 (1957)
MF No. 42-S A3 B1 C2 D1 E1 F6 G1
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MF No. 129-K A3 B1 C8 D1 E1 F6 G1
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Rocard, Yves
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MF No. 49-Q A3 B2 C6 D1 E2 F7 G1 52
*helium, *hydrogen, *nitrogen, *oxygen, *gaseous, *equation of state, virial coefficient, van der Waals, *reduced variable, second virial coefficient, intermolecular force, law of corresponding states
- 00673 Abschätzung Spezifischer Wärmen von Gasen aus Dampfdruckkurven. Calculations of the specific heats of gases from vapor pressure curves
Trautz, M. Badstübner, W.
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MF No. 89-W A3 B3 C2 D1 E1 F7 G1
*specific heat, *vapor pressure, *hydrocarbon, paraffin class, *methane, *ethane, halogen, *propane, alcohol, *ammonia, organic chemical, *gaseous, aromatic, *water, sulfur dioxide

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Uhlir, Arthur, Jr.
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*argon, *liquid, *gaseous, *thermal conductivity, *nitrogen,
pressure effect, high pressure, equation, enskogg formula,
boiling point to critical point
- 00678 Application des ultrasons a la mesure de la thermodiffusion
dans des melanges gazeux et de la chaleur specifique de l'hélium
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MF No. 30-P A3 B2 C5 D1 E1 F7 G2
*helium, *gaseous, *velocity of sound, *specific heat, pressure
effect, *binary system, *gaseous mixture, *hydrogen, *nitrogen
- 00680 Velocity of sound in liquid nitrogen.
Van Itterbeek, A. De Bock, A. Verhaegen, L.
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CA 44-396f MF No. 44-T A3 B1 C1 D1 F6 G1 49
*nitrogen, *liquid, *methane, *oxygen, *velocity of sound,
*compressibility
- 00682 Velocity of sound in liquid oxygen.
Van Itterbeek, A. De Bock, A.
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MF No. 37-P A3 B1 C1 D1 E1 F6 G1 48
*oxygen, *velocity of sound, *liquid, carbon tetrachloride,
helium I, helium II
- 00683 Über Wahrscheinliche Werte von Cv für Wasserdampf, Ammoniak,
Methan und Höhere Paraffine. Probable values of Cv from water
vapor, NH3, methane, and higher paraffins
Trautz, Max
Ann. Physik **9**, 465-85 (1931) 1 fig 4 tab 6 ref
MF No. 89-V A3 B3 C1 D1 E1 F7 G1
*water, *ammonia, *methane, paraffin, *hydrocarbon, *specific
heat, *gaseous, *liquid
- 00686 The thermal conductivity of solid helium
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*physical property, *gaseous
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*gaseous;
A6 B1 C5 D1 E1
*heat conduction, *heat transport, hydrogen, helium, *pressure
effect, convection
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Edmister, W.C.
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*entropy, *enthalpy, *methane, *ethane, *propane, *butane,
*hydrocarbon, reduced variable, *gaseous
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Vince, R.G.
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*hydrocarbon, krypton, *organic fluid, *thermal conductivity,
*oxygen, *methane, *transport property
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*air, *carbon dioxide, *nitrogen, *oxygen, *hydrogen, *helium,
*specific heat, *density, *boiling point, *critical constants,
*viscosity, *vapor pressure, *melting point, *liquid, *gaseous
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*thermal conductivity, *nitrogen, *liquid, temperature effect
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coefficient, *specific heat, high pressure, *gaseous, specific
heat ratio
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Stevenson, Richard
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property, solid-solid transition, pressure effect, *phase
diagram, temperature effect, *solidified gas
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effect
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*gaseous, virial coefficient, specific heat ratio, *specific heat
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*air, *argon, *carbon dioxide, *gaseous
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23 pp
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*PVT data, *equation of state, *hydrogen, *gaseous, isotherm,
lennard Jones function, intermolecular force, low pressure,
second virial coefficient, virial coefficient

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*hydrogen, normal hydrogen, *density, *expansivity, thermal expansion, *compressibility, *entropy, *enthalpy, *specific heat, calculation
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*specific heat, *para-hydrogen, *boiling temperature, *hydrogen, *critical point, *liquid, boiling point to critical point
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*carbon, diamond, *bismuth, *germanium, *silicon, *thermal conductivity, temperature effect, *argon, *solidified gas
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*argon, *thermal conductivity, *gaseous
- 00759 Thermal properties of gases, Table 11.42. Molecular nitrogen.
Nuttall, R.L.
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*hydrogen, *thermal conductivity, *gaseous
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Masi, J.F.
Natl. Bur. Standards, Heat & Power Div., Table 13.18 (Jul 1950) 9 pp 4 ref
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*carbon dioxide, *density, *gaseous, table
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Menn, D.B. Stewart, R.B.
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*helium, *thermodynamic property, *entropy, *enthalpy, *gaseous, *liquid, T-S diagram
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Kinetic Chemicals, Inc., Wilmington, Del.
A3 B1 C2 D1 E2 F6 G2
*critical constant, *thermal property, *physical property, table, freon, fluorinated hydrocarbon
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*thermal conductivity, *gaseous, *air, *oxygen, *methane, *propane, ethylene, sulfur dioxide, water vapor, viscosity, specific heat, nomogram
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Dugdale, J.S.
Nuovo Cimento Suppl. 9, No. 1, 27-31 (1958) 2 fig 1 tab 11 ref
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*helium, *equation of state, *solidified gas
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Clusius, K.
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MF No. 70-P A3 B3 C6 D1 E1 F7 G1 29
*neon, *specific heat, *vapor pressure, *solidified gas

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Leduc, A.
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*neon, *argon, *compressibility, *expansivity, *gaseous, *density
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MF No. 160-N A3 B1 C5 D1 E2 F6 G1
*melting curve, critical temperature, *entropy, superfluid, *helium, *liquid, *solidified gas, helium 3, enrichment, *vapor pressure, *density, *heat of vaporization, second order transition, helium 4, helium 3-helium 4, *liquid mixture, *binary system, *phase equilibrium, second sound, lambda temperature, *solution
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Gt. Brit. Ministry of Supply, Rept. No. E.R.D.E. 11/R/57 (Oct 1957) 15 pp 2 fig 5 tab 13 ref
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*nitrogen, *argon, *gaseous, *liquid, *thermal conductivity
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*helium, *liquid, *velocity of sound, saturated liquid, *compressibility
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Woolley, H.W.
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A3 B1 C7 D1 E2 F2 G6
*carbon dioxide, *specific heat, *entropy, *enthalpy, *gaseous, compilation, tables
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Woolley, H.W.
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A3 B1 C2 D1 E2 F2 G9
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Chase, C.E.
Am. J. Phys. 24, 136-55 (Mar 1956)
A3 B1 C4 D1 E1 F6 G1 56
frequency effect, *physical property, sound absorption, *velocity of sound, *liquid, *helium, lambda temperature
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Woolley, H.W.
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*nitrogen, *specific heat, *entropy, *enthalpy, atomic, compilation, tables, *gaseous
- 00842 Thermal properties of gases, table 11.10. Molecular nitrogen (ideal gas state).
Woolley, H.W.
Natl. Bur. Standards, Heat & Power Div., Table No. 11.10 (Jul 1949) 4 ref
A3 B1 C6 D1 E2 F2 G9
*nitrogen, *specific heat, *entropy, *enthalpy, compilation, tables
- 00844 The NBS-NACA tables of thermal properties of gases. Table 10.10. Atomic oxygen (ideal gas state).
Woolley, H.W.
Natl. Bur. Standards, Heat and Power Div., Table 10.10 (Dec 1949)
A3 B1 C6 D1 E2 F2 G9
*oxygen, *specific heat, *entropy, *enthalpy, atomic, compilation, tables, *gaseous
- 00846 The NBS-NACA tables of thermal properties of gases, table 9.10. Molecular oxygen (ideal gas state).
Woolley, H.W.
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A3 B1 C6 D1 E2 F2 G9
*oxygen, *specific heat, *entropy, *enthalpy, compilation, tables, *gaseous
- 00848 The NBS-NACA tables of thermal properties of gases. Table 8.10. Atomic hydrogen (ideal gas state).
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*hydrogen, *specific heat, *enthalpy, *entropy, gaseous, tables
- 00849 The NBS-NACA tables of thermal properties of gases. Table 7.39. Molecular hydrogen.
Woolley, H.W.
Natl. Bur. Standards, Heat and Power Div., Table 7.39 (Dec 1950)
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*hydrogen, *specific heat, *enthalpy, *entropy, compilation, tables, *gaseous
- 00850 The NBS-NACA tables of thermal properties of gases. Table 7.32. Molecular hydrogen.
Woolley, H.W.
Natl. Bur. Standards, Heat and Power Div., Table 7.32 (Jul 1950)
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*hydrogen, *specific heat, *enthalpy, *entropy, compilation, tables, *gaseous
- 00852 The NBS-NACA table of thermal properties of gases. Table 7.18. Density of molecular hydrogen.
Woolley, H.W.
Natl. Bur. Standards, Heat and Power Div., Table 7.18 (Dec 1949) 3 pp 1 ref
A3 B1 C1 D1 E2 F2 G9
*hydrogen, *density, *gaseous, compilation, tables
- 00853 The NBS-NACA tables of thermal properties of gases. Table 7.20. (Compressibility factor for molecular hydrogen).
Woolley, H.W.
Natl. Bur. Standards, Heat and Power Div., Table 7.20 (Dec 1949)
A3 B1 C6 D1 E2 F2 G9 49
*hydrogen, compressibility factor, *gaseous, *PVT data, compilation, tables
- 00854 Thermal properties of gases, table 7.22, molecular hydrogen.
Woolley, H.W.
Natl. Bur. Standards, Heat and Power Div. Table No. 7.22 (Jul 1949)
A3 B1 C7 D1 E2 F2 G9 49
*hydrogen, *entropy, *enthalpy, *gaseous, compilation, tables
- 00855 The NBS-NACA tables of thermal properties of gases. Table 7.24. Molecular hydrogen.
Woolley, H.W.
Natl. Bur. Standards, Heat and Power Div., Table 7.24 (Jul 1950)
A3 B1 C6 D1 E2 F2 G9
*hydrogen, *specific heat, compilation, tables, *gaseous
- 00856 The NBS-NACA tables of thermal properties of gases. Table 7.26. Molecular hydrogen.
Woolley, H.W.
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A3 B1 C1 D1 E2 F2 G9
*hydrogen, *specific heat, *enthalpy, *entropy, *molecular property, tables, *gaseous

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*thermal conductivity, *binary system, *ternary system, *argon, *neon, *krypton, *gaseous mixture
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Singvi, K.S.
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MF No. 159-Z A3 B1 C4 D1 E3 F6 G1
*helium, *liquid, *viscosity, *entropy, *specific heat, helium I
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*helium, *liquid, *specific heat, *entropy, equation, anomaly
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Rietveld, A.O.
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MF No. 163-C A3 B1 C7 D3 E1 F7 G2
*argon, *helium, *gaseous, *gaseous mixture, *binary system, *viscosity, concentration effect, *neon
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MF No. 77-F A3 B1 C1 D1 E1 F6 G1
*binary system, *mixture, *PVT data, *methane, *nitrogen, cryogenic temperature, critical region, phase-equilibrium
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Borovik, E.S.
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MF No. 72-G A3 B7 C7 D1 E3 F7 G1
*liquid, *thermal conductivity, *water, *nitrogen, theory
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MF No. 50-T A3 B1 C7 D1 E1 F6 G1
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CA 48 13308h MF No. 50-Q A3 B1 C1 D1 E1 F6 G1
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Hosokawa, S., and Sugita, T. *Ann. Phys. (N.Y.)*, 60, 565-71 (1962)
*Helium, neon, argon, krypton, xenon, air, viscosity, gaseous
AS B1 C4 D1 E1 F1 G1
- Q734 Metingen over de voortplantingssnelheid van het geluid in enkele vloeibare elementen. Measurements of the speed of propagation of sound in some liquefied gases.
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*Oxygen, nitrogen, liquid, velocity of sound, argon, hydrogen, normal hydrogen, methane, compressibility, specific heat ratio
AS B1 C4 D1 E1 F1 G1
- Q735 Measurements on the velocity of sound in helium gas at liquid helium temperatures.
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*Helium, gaseous, velocity of sound, specific heat, specific heat ratio
AS B1 C4 D1 E1 F1 G1
- Q736 Determinations des grandeurs thermodynamiques et cinétiques des gaz et des gaz condensés aux basses températures. Determination of thermodynamic and kinetic energy of gas and of gas condensed at low temperatures.
Van Haterbeek, A., and Verhulst, J. *Physica*, 20, 107-12 (1954)
*Second virial coefficient, equation of state, argon, hydrogen, gaseous mixture, binary system, velocity of sound, condensation effect, pressure effect, virial coefficient
AS B1 C4 D1 E1 F1 G1
- Q737 Thermal conductivity of gaseous helium.
Hosokawa, S., and Sugita, T. *Physica*, 20, 107-12 (1954)
*Heat transport, heat conduction, helium, gaseous, thermal conductivity, viscosity, temperature effect, equation
AS B1 C4 D1 E1 F1 G1
- Q738 The vapor pressure of some hydrocarbons in the liquid and solid state at low temperatures.
Hosokawa, S., and Sugita, T. *Ann. Phys. (N.Y.)*, 60, 565-71 (1962)
*Vapor pressure, methane, ethane, propane, butane, liquid, acetylene, ethylene, hydrogen, pentane, pyrene, butane, solidified gas
AS B1 C4 D1 E1 F1 G1
- Q739 Heat conduction of the boundary layer in liquid helium II.
Hosokawa, S., and Sugita, T. *Phys. Rev.*, 125, 1262-7 (1962)
*Helium, liquid, helium II, thermal conductivity
AS B1 C4 D1 E1 F1 G1
- Q740 Neon, Chlorine, Density, heat of vap., normal boiling pt., melt. pt.
Kraus, K.W. *Critical Tables of Molecular Data, Physics, Chemistry, and Thermodynamics*, Vol. 1, p. 102, 104, McGraw-Hill Book Co., Inc., N. Y. (1926)
*Neon, density, chlorine, phase transition heats, heat of vaporization
AS B1 C4 D1 E1 F1 G1
- Q741 Neon vapor pressure.
Kraus, K.W. *Critical Tables of Molecular Data, Physics, Chemistry, and Thermodynamics*, Vol. 2, p. 102, 104, McGraw-Hill Book Co., Inc., N. Y. (1926)
*Neon, vapor pressure
AS B1 C4 D1 E1 F1 G1
- Q742 Solid solution nitrogen-krypton from 10 to 96 degrees K.
Kraus, K.W. *Ann. Phys. (N.Y.)*, 60, 565-71 (1962)
*Solidified gas, solution, argon, krypton, neon gas, phase equilibrium, solid solution, vapor pressure, binary system
AS B1 C4 D1 E1 F1 G1
- Q743 Metingen over de thermische en de kinetische werking van enkele gasmengsels bij lage en zeer lage temperaturen. Measurements of thermal diffusion and viscosity of certain gas mixtures at low and very low temperatures.
Verhulst, J., and Verhulst, J. *Nederl. Tijdschr. Wetensch.*, 10, 10-15 (1952)
*Gaseous mixture, binary system, hydrogen, nitrogen, viscosity, gaseous, low pressure
AS B1 C4 D1 E1 F1 G1
- Q744 Die Additivität der Dissoziations- und Konstantenwerte in der Zustandsgleichung und die Fundamentale Werte dieser Dissoziations- und Konstantenwerte in der Zustandsgleichung für verschiedene Elemente im Zusammenhang mit den periodischen Systemen. The additivity of the dissociation and the equilibrium constants of the equation of state and the fundamental values of these quantities for different elements in relation to the periodic system.
Van Haterbeek, A., and Verhulst, J. *Physica*, 20, 107-12 (1954)
*Helium, nitrogen, neon, nitrogen, oxygen, argon, methane, ammonia, gaseous fluid, hydrogen, second virial coefficient, virial coefficient, equation of state
AS B1 C4 D1 E1 F1 G1

- 05810 Velocity of sound in liquid hydrogen.
Van Itterbeek, A. Verhagen, L.
Nature 163, 399 (Mar 1949)
MF No. 118-U A3 B1 C1 D1 E1 F7 G1
*hydrogen, *liquid hydrogen, *velocity of sound
- 05813 Velocity of sound in mixtures of argon, helium and hydrogen at low temperatures.
Van Itterbeek, A. Vandoninck, W.
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MF No. 119-B A3 B1 C7 D1 E1 F7 G1
*argon, *helium, *hydrogen, *velocity of sound, ultrasonic technique, *gaseous mixture, equation of state, pressure effect.
- 05814 Measurements of the velocity of sound in helium gas at liquid helium temperatures.
Van Itterbeek, A. Forrez, G.
Physica 20, 767-72 (1954)
MF No. 115-U A3 B1 C5 D1 E1 F6 G1 S4
*helium, *gaseous, *velocity of sound, *specific heat,
- 05816 A new calculation of the saturated vapor pressure of liquid helium for use as a temperature scale.
Van Dijk, H. Durieux, H.
Physica 22, 760 (Aug 1956)
A3 B1 C5 D2 E3 F6 G1
*helium, *liquid, *vapor pressure
- 05825 Thermal conductivity of gaseous hydrogen and of gaseous deuterium.
Ubbink, J.B.
Physica 14, 165-74 (Apr 1948) 7 fig 5 tab 14 ref
A3 B1 C6 D1 E1 F7 G1
*thermal conductivity, *hydrogen, *deuterium, *gaseous, *viscosity, *specific heat
- 05831 On the state of solid hydrogen.
Tomita, K. Mannari, I.
Progr. Theoret. Phys. (Kyoto) 10, 367-69 (Sep 1953) 2 fig 6 ref
MF No. 158-Q A3 B1 C5 D3 E1 F7 G1 S3
*solidified gas, *hydrogen, *specific heat, anomaly;
- 05842 Helium Drie. Helium three.
Ter Haar, D.
Ned. Tijdschr. Natuurk 15, 233-42 (Oct 1949) 13 tab 10 ref
CA 44 13g MF No. 173-F A3 B4 C5 D1 E1 F7 G1
*helium, helium 3, *liquid, helium 4, *vapor pressure, *reduced
- 05865 Condensation of pure He3 and its vapor pressures between 1.2 degrees and its critical point.
Sydorick, S.G. Grilly, E.R. Hemmel, E.F.
Phys. Rev. 75, 303-05 (Jan 1949)
A3 B1 C5 D1 E1 F6 G1
*helium, *liquid, helium 3, *vapor pressure, *critical constant, *boiling temperatures, helium 4
- 05869 The liquid-solid transformation in helium near absolute zero.
Svenson, C.A.
Phys. Rev. 79, 626-31 (Aug 1950)
A3 B1 C1 D1 E F6 G1
*helium, *phase change, *liquid helium, *melting curve, *density, *heat of fusion, *internal energy, Lambda temperature
- 05870 The liquid-solid transformation in helium from 1.6 degrees to 4 degrees K.
Svenson, C.A.
Phys. Rev. 86, 870-76 (Jun 1952)
CA 8442d A3 B1 C5 D1 E1 F6 G1
*helium, *liquid, *solidified gas, *phase transition property, lambda temperature, *PVT data, *heat of fusion, density, *melting curve
- 05871 Blocked capillary method for determining melting pressures. The melting curve of helium from 1.5 degrees to 4 degrees K.
Svenson, C.A.
Phys. Rev. 89, 538-44 (Feb 1953)
A3 B1 C1 D E F6 G1
*helium, *melting curve, *cryogenic property, capillary,
- 05875 Generalized Beattie-Bridgeman equation of state for real gases: butane, CO2, ethane and propane.
Su, G.J. Chang, C.H.
J. Am. Chem. Soc. 68, 1080-3 (1946)
CA AD-5311 A3 B1 C2 D3 E3 F6 G1
*equation of state, *butane, *carbon dioxide, *ethane, *propane
- 05879 Compressibilities of solid hydrogen and deuterium at 4.2 degrees K.
Stewart, J.W. Svenson, C.A.
Abstracted in Phys. Rev. 94, 772 (May 1954) Paper N9, 2 ref
MF No. 152-G A3 B1 C5 D3 E1 F6 G1
*hydrogen, *deuterium, *compressibility, *solidified gas, pressure effect, high pressure
- 05885 Präzisionsmessungen der Verdampfungswärme der Gase O2, H2S, PH3, A, COS, CH4, and CH3D. Precision measurements of the heat of vaporization of gases O2, H2S, PH3, A, COS, CH4, and CH3D.
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Z. physik. Chem. (Leipzig) B42, 395-421 (1939) 5 fig 11 tab 58 ref
CA 33-5734-9 MF No. 37-V A3 B3 C1 D1 E1 F7 G1
*heat of vaporization, *oxygen, *hydrogen, *inorganic fluid, *argon, *methane, *deutero-compound, *liquid, hydrogen phosphide, carbonyl sulfide, deutero methane, sulfide
- 05887 Specific heats of fluid argon near the critical point.
Jones, G.O. Walker, I.A.
Proc. Phys. Soc. (London) B65, 1348-45 (1956)
MF No. 84-C A3 B1 C7 D2 E1 F7 G1
*argon, *specific heat, *gaseous, *liquid, *critical region,
- 05888 Viscosities of several common gases between 0 degree K and room temperature.
Johnston, H.L. McCloskey, K.E.
J. Phys. Chem. 44, 1030-59 (1940) 3 fig 15 tab 30 ref
MF No. 28-W A3 B1 C7 D1 E1 F6 G1
*viscosity, *air, *hydrogen, *nitrogen, *carbon dioxide, *methane, *gaseous, oxide of nitrogen
- 05889 The thermal conductivities of eight common gases between 60 degrees and 380 degrees K.
Johnston, H.L. Grilly, E.R.
J. Chem. Phys. 14, No. 4, 233-38 (Apr 1946) 1 fig 11 tab 5 ref
MF No. 37-I A3 B1 C7 D1 E1 F6 G1
*thermal conductivity, *gaseous, *inorganic fluid, *oxygen, *nitrogen, *carbon monoxide, *hydrogen, *helium, *carbon dioxide, *methane, oxide of nitrogen, temperature effect
- 05892 The viscosity of liquid hydrogen.
Johns, H.E.
Can. J. Research A17, No. 12, 221-26 (Dec 1959)
MF No. 30-Q A3 B1 C1 D1 E1 F7 G1
*hydrogen, *liquid, *viscosity, capillary
- 05893 Thermal conductivity of nitrogen at high temperatures and pressures.
Johannin, P. Vodar, D.
Ind. Eng. Chem. 49, 2040-41 (1957)
MF No. 44-Z A3 B1 C2 D1 E1 F6 G1
*nitrogen, *thermal conductivity, *gaseous, high pressure
- 05896 The measurement of viscosities of gases at high pressures. Part II. Viscosities of nitrogen and of mixtures of nitrogen and hydrogen.
Iwasaki, Hiroji
Bull. Chem. Research Inst. Non-Aqueous Solutions, Tohoku Univ. 3, 117-28 (1953) 7 fig 6 tab 17 ref
CA 48-118601 MF No. 33-V A3 B6 C8 D1 E2 F7 G1 S3
*nitrogen, *gaseous, *viscosity, temperature effect, pressure effect;
- 05897 Investigation of thermodynamic properties of air and nitrogen at high pressures and low temperatures. I. Thermodynamic diagrams of state for air and nitrogen.
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*air, *nitrogen, *gaseous, *joule-thomson coefficients, *entropy, *density, *phase diagram, compressibility factor
- 05899 On the surface layer of liquid argon.
Inouye, T.
J. Phys. Soc. Japan 6, 243-48 (1951)
MF No. 84-1 A3 B6 C1 D1 E2 F7 G1 S1
*argon, *liquid, *surface tension, surface energy, theory
- 05904 Isothermes de Substances Monoatomiques et de Leurs Melanges Binaires. XXI. Determinations d'isothermes de l'hydrogene et de l'helium a Basse Temperature, Faites en vue d'examiner si la compressibilite de ces gaz est influencee par les Quanta. Isotherms of monatomic substances, and their binary mixtures. XXI. The determination of the isotherms of hydrogen and helium at low temperatures, made with a view to examine the compressibility of gases influenced by the quantity.
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A3 B2 C2 D3 E1 F7 G1
*hydrogen, *helium, isotherms, compressibility factor, *PVT data, *gaseous
- 05908 Neon equilibrium properties of rare gases.
Madan, L.P.
J. Phys. Chem. 62, 893-94 (1958)
CA 52 19309h A3 B1 C1 D F3 G6 G1 S9
*neon, *gaseous, *rare gas, xenon, *transport property, *viscosity, intermolecular force, equation, calculation, theory
- 05910 Thermal conductivity of He-Ar-Xe ternary mixture.
Saxena, S.C.
J. Chem. Phys. 25, 360-61 (1956)
A3 B1 C1 D1 E2 F6 G1 S6
*thermal conductivity, *helium, *argon, *xenon, *ternary system, *gaseous mixture
- 05911 Thermal conductivity of some gases at 0 degrees C.
Kannuluik, W.G. Martin, L.H.
Proc. Roy. Soc. (London) A144, 406-513 (1934) 13 tab 21 ref
MF No. 53-F A3 B1 C2 D1 E1 F7 G1
*thermal conductivity, *air, *gaseous, *hydrogen, *carbon dioxide, *carbon monoxide, *oxygen, *helium, *neon, *argon, oxide of nitrogen
- 05912 Thermal conductivity of binary and ternary mixtures of helium, argon and xenon.
Saxena, S.C.
Indian J. Phys. 31, 597-606 (1957) 4 fig 5 tab 9 ref
MF No. 50-B A3 B1 C1 D1 E1 F7 G1 S7
*gaseous mixture data, *thermal conductivity, *ternary system, *helium, *argon, *xenon

- 05913 Specific heat of solid carbon dioxide.
Venkatesvaran, C.S.
Current Sci. (India) 12, 252-3 (1943)
MF No. 66-K A3 B1 C1 D1 E1 F7 G1
*carbon dioxide, *solidified gas, *specific heat
- 05914 Experimental determination of heat conductivity for gases.
Keyes, F.G.
Trans. ASME 71, No. 8, 839 (Nov 1949)
MF No. 46-T A3 B1 C8 D1 E1 F6 G1 49
*carbon dioxide, *liquid, *gaseous, *thermal conductivity;
- 05915 Sur le point de fusion et les forces intermoleculaires. On the melting point and intermolecular forces.
Popovici, M.S. Pop, M.
Compt. rend. 246, 2609-11 (1958)
MF No. 50-F A3 B2 C5 D1 E2 F7 G1 58
*helium, *neon, *argon, *rare gas, krypton, xenon, radon, *solidified gas, melting point, intermolecular force;
- 05919 Saturation pressures of some vapors between 10 degrees and -181 degrees
Henning, M.F. Stock, A.
Z. Physik 4, 226-44 (1921) 2 fig 16 tab 11 ref
MF No. 89-B A3 B3 C1 D1 E1 F7 G1
*vapor pressure, *carbon dioxide, *ammonia, *ethylene, *methane, *liquid, carbon disulfide, hydrogen chloride, phosphorus
- 05920 The viscosity of liquid helium I.
Heikkila, W.J. Hallett, A.C.H.
Can. J. Phys. 33, 420-35 (1955) 7 fig 3 tab 14 ref
MF No. 38-X A3 B1 C1 D1 E1 F7 G1
*helium, *liquid, *viscosity, helium II
- 05921 The new specific heats
Hock, R.C.H.
Mech. Eng. 62, 9-12 (1940) 3 fig 5 tab 3 ref
CA 34-22404 MF No. 37-S A3 B1 C1 D1 E1 F6 G1
*specific heat, *hydrogen, *carbon monoxide, *nitrogen, *oxygen, *carbon dioxide, *water, *enthalpy, *internal energy, *gaseous
- 05928 Heat of vaporization and surface energy of several liquids.
Harasima, Akira
Proc. Phys. Math. Soc. Japan 23, 977-83 (1941) 4 tab 6 ref
MF No. 113-D A3 B6 C1 D1 E3 F7 G1 41
*liquid, *heat of vaporization, *helium, *hydrogen, *deuterium, *neon, *nitrogen, *argon, surface energy, theory
- 05929 The attenuation of second sound in liquid helium II.
Hanson, W.B. Pellam, J.R.
Phys. Rev. 95, 604 (Jul 1954) 8 fig 1 tab 16 ref
A3 B1 C5 D1 E F6 G1 54
*helium, *liquid, helium II, second sound, *physical property,
- 05938 Thermodynamic properties of air, nitrogen and oxygen as imperfect gases.
Hall, N.A. Ibele, W.E.
Minn. Univ. Eng. Expt. Sta., Tech. Paper No. 85, (1951)
157 pp 2 fig 6 tab 14 ref
ASTIA AD-42 301 A3 B1 C0 D E F6 G5
*air, *nitrogen, *oxygen, *gaseous, *PVT data, compressibility factor, *equation of state, second virial coefficient, third virial coefficient
- 05944 The thermal conductivity of carbon dioxide in the region of the critical point
Guildner, L.A.
Mass. Inst. Technol., Cambridge, Tech. Rept. MIT-19-P (Sept 1958)
Contr. No. 1858(25)
ASTIA AD 205 802 A3 B1 C2 D E F3 G5
*carbon dioxide, *thermal conductivity, critical region, *gaseous.
- 05946 Melting properties of he3 and he4 up to 3500 kg/cm2.
Grilly, E.R. Mills, R.L.
Ann. Phys. 8, No. 1, 1-23 (Sept 1959) 9 fig 7 tab 36 ref
MF No. 98-P A3 B1 C5 D1 E1 F6 G1
*helium, *melting curve, *solidified gas, *liquid, *density, *expansivity, helium 3, helium 4, *phase transition property, *pressure effect
- 05955 Solid helium at "high" temperatures.
Holland, F.A. Huggill, J.A.W. Jones, G.O. Simon, F.E.
Nature 165, 147-48 (Jan 1950) 1 fig 2 ref
MF No. 171-P A3 B1 C6 D1 E1 F7 G1
*helium, *melting curve, critical temperature, very high pressure, pressure effect
- 05959 The viscosity, thermal conductivity, and prandtl number for air, oxygen, nitrogen, nitric oxide, hydrogen, carbon monoxide, carbon dioxide, water, helium and argon.
Hilsenrath, J. Touloukian, Y.S.
Trans. Am. Soc. Mech. Engrs. 76, 967-85 (1954) 30 fig 8 tab 111 ref
MF No. 27-M A3 B1 C D1 E1 F6 G1
*viscosity, *thermal conductivity, *air, *oxygen, *nitrogen, *gaseous, hydrogen, *carbon monoxide, *carbon dioxide, *water, *helium, *argon, prandtl number, oxide of nitrogen
- 05963 The specific heat of liquid helium.
Hill, R.W. Lounsbury, G.V.
Phil. Mag. 2, 143-48 (1957) 2 fig 2 tab 7 ref
MF No. 70-B A3 B1 C1 D1 E1 F6 G1
*helium, *liquid, *specific heat, *vapor pressure, *entropy
- 05967 Über das "b" der van der Waalschen Gleichung. On the "B" in the Van der Waals equation.
Herz, W.
Z. Elektrochem. 29, 527-30 (1923) 4 tab 7 ref
MF No. 80-I A3 B3 C7 D1 E2 F7 G1 23
*equation of state, *gaseous, van der Waals, *helium, *neon, *argon, *rare gas, krypton, xenon, *inorganic fluid, *carbon dioxide, carbon disulfide, carbon tetrachloride, phosphorous trihydride;
- 05968 The specific heat of liquid helium II as a function of pressure.
Hercus, G.R. Wilks, J.
Phil. Mag. 45, 1163-72 (Nov 1954) 5 fig 3 tab 16 ref
A3 B1 C5 D1 E1 F6 G1
*specific heat, *helium, *liquid, saturated liquid, helium I, pressure effect, *entropy
- 05972 Specific heat of liquid helium at temperatures between 0.6 and 1.6 degrees K.
Hull, R.A. Wilkinson, K.R. Wilks, J.
Proc. Phys. Soc. (London) 64A, 379-88 (Apr 1951) 5 fig 1 tab 19 ref
MR No. 171-E A3 B1 C4 D1 E1 F6 G1
*helium, *liquid, *specific heat, temperature effect, equation
- 05978 Some vibrational properties of solid helium.
Hooton, D.J.
Phil. Mag. 46, 485-98 (May 1955)
MF No. 13-S A3 B1 C5 D1 E3 F6 G1 55
helium, solidified gas, *specific heat, debye constant, theory,
- 05980 Untersuchungen über das Gleichgewicht von Flüssigkeit und Dampf des Systems Argon-Stickstoff. Investigation of the equilibrium liquid-vapor of the system argon-nitrogen
Holst, G. Hamburger, L.
Z. Physik. Chem. 91, 513-47 (1916) 17 fig 11 tab 39 ref
MF No. 60-H A3 B3 C1 D1 E1 F7 G1
*argon, *nitrogen, *liquid mixture, *binary system, *vapor pressure, T-X diagram, *phase equilibrium
- 05981 Experiments with a rotating cylinder viscometer in liquid helium II.
Hollis-Hallett, A.C.
Proc. Cambridge Phil. Soc. 49, 717-27 (Oct 1953)
A3 B1 C5 D1 E1 F7 G1 53
*helium, *liquid, helium II, *viscosity;
- 05982 Oscillating disc experiments in liquid helium II.
Hollis-Hallett, A.C.
Proc. Phys. Soc., (London) A63, 1367-68 (Dec 1950)
A3 B1 C5 D1 E1 F7 G1 50
*helium, *liquid, *viscosity, *density, helium II
- 05988 Wärmeleitfähigkeit von flüssigen Sauerstoff, flüssigen Stickstoff und ihren Gemischen. Thermal conductivity of liquid oxygen and liquid nitrogen and their mixtures.
Harmann, Gunther
Ann. Physik 32, 593-607 (1938) 7 fig 1 tab 15 ref
CA 32 8907 MF No. 137-V A3 B1 C1 D1 E1 F7 G1
*oxygen, *nitrogen, *liquid, *liquid mixture, *binary system, *thermal conductivity, temperature effect
- 05990 Thermische Messungen an flüssigen Wasserstoff. Thermal measurements of liquid hydrogen.
Gutsche, H.
Z. Physik. Chem. A184, 45-58 (1939) 5 fig 4 tab 10 ref
MF No. 114-H A3 B3 C6 D1 E1 F7 G1 39
*hydrogen, *liquid, *specific heat, *entropy
- 05992 Thermal conductivity of liquid helium.
Grenier, C.
Phys. Rev. 91, 598-603 (1951) 7 fig 2 tab 8 ref
A3 B1 C5 D1 E1 F6 G1
*helium, *liquid, *thermal conductivity, temperature effect,
- 05998 Die spezifische Wärme von Argon und einigen mehratomigen Gasen. The specific heat of argon and of some polyatomic gases
Heuse, W.
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MF No. 87-P A3 B3 C8 D1 E1 F7 G1
*specific heat, *gaseous, *argon, *carbon dioxide, *methane, *ethane, *ethylene, oxide of nitrogen, acetylene
- 06004 The vapor-pressure curve of helium between 4.2 degrees K and 4.8 degrees K.
Worley, R.D. Zemansky, M.W. Boorse, H.A.
Phys. Rev. 93, 45-6 (Jan 1954) 1 fig 6 ref
MF No. 26-M A3 B1 C5 D3 E1 F6 G1
*helium, *vapor pressure, *liquid, equation, temperature effect
- 06005 Thermal conductivity of liquid helium below 2.0 degrees K.
Fairbank, H.A. Wilks, J.
Phys. Rev. 95, 277-78 (1954)
MF No. 26-O A3 B1 C1 D1 E1 F6 G1 54
helium, liquid, thermal conductivity
- 06010 Tables of vapor pressure of liquid helium.
Van Dijk, H. Shoenberg, D.
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MF No. 26-X A3 B1 C5 D2 E2 F7 G1
*helium, *liquid, *vapor pressure

- 06011 Some properties of gas mixtures.
Godridge, A.M.
Brit. Coal Utilisation Research Assoc., Bull. 18, No. 1, 1-21 (Jan 1954) 6 tab 156 ref
MF No. 27-B A3 B1 C2 D1 E2 F7 G1
*gaseous, *hydrogen, *nitrogen, *carbon dioxide, *oxygen, *air, heat of combustion, *methane, *carbon monoxide, *specific heat, *viscosity, *thermal conductivity, *gaseous mixture, multi-
- 06013 Condensed gas calorimetry. VI. The heat capacity of liquid parahydrogen from the boiling point to the critical point.
Smith, A.L., Hallett, N.C., Johnston, H.L.
J. Am. Chem. Soc. 76, 1486-88 (Mar 1954)
MF No. 27-E A3 B1 C6 D1 E1 F6 G1
*specific heat, *liquid, *parahydrogen, *boiling temperature, *critical point, *entropy, boiling point to critical point
- 06014 Compression to 10,000 atmospheres of solid hydrogen and deuterium at 4.2 degrees K.
Stewart, J.W., Svensson, C.A.
Phys. Rev. 94, 1069-70 (May 1954)
ASTIA AD 103 810 MF No. 27-F A3 B1 C5 D1 E1 F6 G1 54
*compressibility, very high pressure, *hydrogen, *deuterium, cryogenic temperature, *solidified gas
- 06016 The vapor pressure of normal hydrogen from the boiling point to the critical point.
White, D., Friedman, A.S., Johnston, H.L.
J. Am. Chem. Soc. 72, 3927-30 (1950) 3 fig 3 tab 12 ref
MF No. 27-N A3 B1 C6 D1 E1 F6 G1
*hydrogen, boiling to critical point, *vapor pressure, *liquid, normal hydrogen, temperature effect, *heat of vaporization
- 06020 Heat of evaporation of helium.
Van Drunen, Johan
J. Chem. Phys. 23, 213 (Jan. 10, 1955)
MF No. 27-X A3 B1 C1 D1 E2 F6 G1 55
*helium, *liquid, helium 4, *heat of vaporization
- 06022 The solid-fluid equilibrium of helium above 5000 atm. pressure.
Holland, F.A., Huggill, J.A.W., Jones, G.O.
Proc. Roy. Soc. A207, 268-77 (Jun 1951)
MF No. 27-Z A3 B1 C1 D1 E1 F6 G1
*helium, *melting curve, equation, very high pressure, critical
- 06023 Contribution A l'etude du Point Critique de Quelques Gaz Difficilement Liquefiables. Azote, Oxyde de Carbone, Oxygene, Methane. Critical points of nitrogen, oxygen, carbon monoxide and methane.
Cardoso, Ettore
J. chim. Phys. 15, 312-50 (1915) 2 fig 4 tab 31 ref
CA 19162060 MF No. 29-E A3 B2 C1 D1 E1 F7 G1
*critical constant, *gaseous, *nitrogen, *carbon monoxide, *oxygen, *methane, *PVT data
- 06025 Vapor pressure chart for lower aliphatic hydrocarbons.
Copeston, R.L., Frolich, K.
Ind. Eng. Chem., 21, 1116-17 (1929) 1 fig 30 ref
MF No. 28-I A3 B1 C1 D1 E2 F6 G1
*vapor pressure, *thermal property, *hydrocarbon, *methane, *propane, *ethane, *butane, *liquid, paraffin class
- 06026 Thermodynamic properties of methane at low temperature.
Corcoran, W.H., Bowles, R.R., Sage, B.H., Lacey, W.N.
Ind. Eng. Chem., 37, 825-28 (1945) 1 fig 3 tab 11 ref
CA 39-4793 (1) MF No. 28-J A3 B1 C8 D1 E2 F6 G1
*methane, *entropy, *T-S diagram, *gaseous
- 06027 Nomographs for thermal conductivities of gases and vapors.
Davis, D.S.
Ind. Eng. Chem. 33, 675-78 (1941)
MF No. 28-M A3 B1 C7 D1 E2 F6 G1
*gaseous, *thermal conductivity, nomograph, *oxygen, *nitrogen, *air, *hydrogen, *inorganic fluid, oxide of nitrogen, *carbon monoxide, *methane, *ammonia, *hydrocarbon, *carbon dioxide
- 06028 Triple point of methane.
Crommelin, C.A.
Koninkl. Ned. Akad. Wetenschap. Proc. 15, 666 (1912) (Abstracted in J. Chem. Soc. 104, II, 20-21)
MF No. 28-L A3 B1 C1 D2 E2 F7 G1
*methane, *triple point, *liquid, *gaseous, *solidified gas
- 06029 The temperature dependency of the molecular heats of gases, especially of ammonia, methane, and hydrogen at low temperatures.
Giacomini, F.A.
Phil. Mag. 50, 146-56 (1925) 3 fig 1 tab 10 ref
CA 19-30561 MF No. 28-P A3 B1 C7 D1 E1 F6 G1
*specific heat, *ammonia, *hydrogen, *methane, *air, *carbon dioxide, ethylene, temperature effect, *gaseous, *liquid
- 06031 Thermal conductivity of gases. Measurements at high pressure.
Lenoir, J.M., Comings, E.W.
Chem. Eng. Progr. 47, 223-31 (1951) 9 fig 3 tab 19 ref
CA 45-54631 MF No. 29-B A3 B1 C2 D1 E1 F6 G1
*gaseous, *thermal conductivity, *nitrogen, *methane, *argon, *hydrogen, *helium, *carbon dioxide, *ethylene, high pressure
- 06032 The heat capacity of methane (Letter).
MacDougall, D.P.
Phys. Rev. 58, 2296-98 (1931) 2 fig 1 tab
CA 26-1489 (4) MF No. 29-D A3 B1 C5 D1 E2 F6 G1
*methane, *specific heat, *solid, *liquid, rotational
- 06034 Methane.
Malisoff, W., Egloff, G.
J. Phys. Chem. 22, 529-75 (1919) 1 tab 150 ref
MF No. 29-F A3 B1 C2 D1 E2 F6 G1 19
*methane, solubility, *critical constants, *triple point, *physical properties, *gaseous, adsorption, thermal expansion, bibliography;
- 06036 The specific heats of polyatomic gases at low temperatures.
Miller, R.W.
J. Am. Chem. Soc. 45, 874-81 (1923) 1 fig 2 tab 13 ref
MF No. 29-H A3 B1 C8 D1 E1 F6 G1
*specific heat, *methane, *gaseous, hydrogen sulfide, methyl chloride, boron trifluoride, specific heat ratio
- 06037 Proprietes thermodynamiques des hydrocarbures. Deuxieme Partie. Donnees numeriques et exemples d'application. Thermodynamic properties of hydrocarbons. Part 2. Numerical data and examples of application.
Tcheretoff, N.
Rev. inst. franc. petrole et Ann. combustibles liquides, 1, 50-53 (1946) 3 tab 77 ref
CA 42-2825c MF No. 29-K A3 B2 C2 D1 E2 F7 G1
*hydrocarbon, *specific heat, *methane, *ethane, *propane, *butane, *enthalpy, *entropy, *heat of fusion, *free energy,
- 06038 On the latent heats of vaporization of methane and ethane.
Satterly, J., Patterson, J.
Trans. Roy. Soc. Can., Section II, 123-27 (1919) 1 fig 2 tab
CA 14-2433(4) MF No. 29-L A3 B1 C1 D1 E1 F7 G1
*heat of vaporization, *methane, *ethane, *liquid
- 06040 Physical properties of light hydrocarbons.
Smith, M.L., Hanson, G.H.
Oil Gas J. 44, No. 10, 119-21 (1945) 1 tab 70 ref
CA 39-3783(2) MF No. 29-N A3 B1 C2 D1 E2 F6 G1
*hydrocarbon, *methane, *ethane, *propane, ethylene, *butane, coefficient of expansion, *vapor pressure, *specific heat, *gaseous, *liquid, *critical constants, *density
- 06041 Empirical heat capacity equations of gases.
Spencer, H.M., Flannagan, G.N.
J. Am. Chem. Soc. 64, 2511-13 (1942) 1 tab 22 ref
CA 37-10 (2) MF No. 29-P A3 B1 C2 D1 E2 F6 G1
*gaseous, *specific heat, *acetylene, *ammonia, *carbon dioxide, carbon disulfide, *hydrocarbon, *methane, *ethylene, *ethane,
- 06042 The vapor pressure constant of methane.
Sterne, T.E.
Phys. Rev. 42, 556-64 (Nov 1932) 2 tab 15 ref
CA 27-456(6) MF No. 29-Q A3 B1 C2 D2 E2 F6 G1
*methane, *vapor pressure, *liquid, *quantum statistics
- 6043 The measurement of low vapor pressures by means of a mass spectrometer.
Tickner, A.W., Lossing, F.P.
J. Phys. & Colloid Chem. 55, 733-40 (1951) 3 fig 1 tab 17 ref
MF No. 29-S A3 B1 C1 D1 E1 F6 G1
*liquid, *methane, *ethylene, *ethane, carbon dioxide, acetylene, *propane, *butane, *hydrocarbon, *vapor pressure, low pressure
- 06046 Om specifika varmet hos gaser inom forbranningstekniken. On the specific heat of gases in combustion technique.
Lundberg, H.A.
Jernkontorets Ann. 82, 217-46 (1927)
CA 23 3385 4 MF No. 35-T A3 B9 C2 D1 E1 F7 G1
*hydrogen, *oxygen, *nitrogen, *carbon monoxide, *carbon dioxide, *methane, *water, steam, *specific heat, compilation,
- 06047 Dampfdrucktafeln für Temperaturbestimmungen zwischen plus 25 degrees and minus 185 degrees. Vapor pressure tables for determinations between plus 25 degrees and minus 185 degrees.
Stock, A., Henning, F., Kuss, E.
Ber. deut. chem. Ges. 54, 1119-29 (1921) 2 fig 9 tab 14 ref
CA 15-2376(4) MF No. 35-W A3 B3 C1 D1 E1 F7 G1
*vapor pressure, *carbon dioxide, *methane, *oxygen, *liquid, *ethylene, *ammonia, carbon disulfide, hydrogen chloride, sulfur
- 06049 A review of the critical constants of various gases.
Pickering, S.F.
J. Phys. Chem. 28, 97-124 (1924) 33 tab 89 ref
MF No. 29-W A3 B1 C7 D1 E2 F6 G1
*acetylene, *air, *ammonia, *argon, *butane, *isobutane, *carbon dioxide, *carbon monoxide, *halogen, chlorine, *ethane, *ethylene, *gaseous, *critical constants, *organic fluid, nitrile, ethyl chloride, *refrigerant, methyl chloride, carbonyl, *methane, *hydrocarbon, propylene, *helium, *hydrogen, *neon, *inorganic
- 06051 Thermodynamic properties of nitrogen.
Bloomer, O.T., Roe, K.N.
Inst. Gas. Technol. Research Bull. 18, 1-28 (Oct 1952)
7 fig 8 tab 24 ref MF No. 30-C A3 B1 C7 D1 E1 F6 G1 52
*nitrogen, *density, *entropy, *enthalpy, *chemical potential, *gaseous, mollier diagram, fugacity, table
- 06052 Measurement of the viscosity of liquid helium II.
Giauque, W.F., Stout, J.W., Barileau, R.E.
J. Am. Chem. Soc. 61, 654-60 (Mar 1939)
MF No. 30-N A3 B1 C1 D1 E1 F6 G1
*viscosity, *helium, *liquid, helium II

- 06057 Solid-liquid equilibrium in helium. Simon, F.E. Symposium on the Physical Chem. of Structural Changes in Solids, England, (Feb 7, 1952) Paper (Abstr. in Chem. and Ind. (London) p 268, Mar 1952) MF No. 30-V A3 B1 C5 D2 E2 F8 G9 52 *helium, *solidified gas, *liquid, *entropy, melting point, critical point, *melting curve, solid-solid transition
- 06061 Sulla viscosita dinamica dei gasi dei vapori. Dynamic viscosity of gases and vapors. Codegone, Cesare. Atti Accad. Sci. Torino. Classe Sci. Fis. Mat. Nat. 86, 126-28 (1951-2) 1 fig 2 tab 6 ref CA 48-8608g MF No. 33-D A3 B5 C1 D1 E2 F7 G1 *gas, *hydrocarbon, *helium, *argon, *methane, *propane, *viscosity, *technical gas, *inert gas, *water, *ammonia, reduced variable, organic halide, sulfur dioxide, carbon
- 06062 Specific heat of gases at the critical point. Lee, J.F. Z. angew. Math. u. Phys. 4, 401-4 (1953) 1 tab, 18 ref CA 48-5581 (b) MF No. 33-F A3 B1 C1 D1 E2 F7 G1 *specific heat, *nitrogen, *carbon dioxide, *oxygen, critical
- 06063 Les Diagrammes I-S Pour H₂, CO, N₂, N₂ plus 3H₂, and CO plus 2H₂. I-S Diagrams for H₂, CO, N₂, N₂ plus 3H₂, and CO plus 2H₂. Quelperine, N.I. Naiditch, I.M. Chm. Ind. (Paris) 34, 1011-20, 1279-88 (1935) 12 fig 24 tab 6 ref MF No. 33-L A3 B2 C7 D1 E2 F7 G1 35 *gaseous, *enthalpy, *entropy, mollier diagram, *hydrogen, *carbon monoxide, *nitrogen
- 06064 Molecular weight, density and viscosity of liquified gases. Rudenko, N.S. Zhur. Tekh. Fiz. 18, 1123-26 (1948) 3 fig 1 tab 11 ref MF No. 33-M A3 B7 C1 D1 E1 F7 G1 *density, *viscosity, *liquid, *hydrogen, *deuterium, *methane, *ethane, *carbon monoxide, *nitrogen, *oxygen, *argon, chlorine
- 06067 Dynamic viscosity of nitrogen and carbon dioxide at high pressures. Savino, Joseph. Purdue Univ., Lafayette, Ind., Ph. D. Thesis (Jan 1955) 60 pp 12 fig 5 tab 21 ref (Univ. Microfilms, Inc., Ann Arbor, Mich. Publ. No. 11658) CA 49-113431 MF No. 34-C A3 B1 C2 D1 E1 F9 G7 *viscosity, *nitrogen, *carbon dioxide, high pressure, *gaseous
- 06068 Wärmeleitung in hochverdichteten gasen. Thermal conduction in highly compressed gases. Fränck, E.U. Chem. Ing. Tech. 25, 238-44 (1953) MF No. 34-X A3 B3 C8 D1 E1 F7 G1 *thermal conductivity, *helium, *hydrogen, *nitrogen, *methane, *steam, *ammonia, *organic fluid, ethylene, *gaseous, *carbon dioxide, *oxygen, *nitrogen, *argon, pressure effect
- 06069 Effect of dissociation on thermodynamic properties of pure diatomic gases. Woolley, H.W. Natl. Advisory Comm. Aeronaut., Tech. Note 3270, 1-19 (Jul 1955) 10 fig 10 tab 12 ref CA 49-11343f MF No. 34-Y A3 B1 C2 D1 E2 F3 G6 55 *enthalpy, *entropy, dissociation, *PVT data, compressibility factor, mollier diagram, *hydrogen, *oxygen, *nitrogen, specific heat, *gaseous
- 06070 Thermal conductivity of gases at high temperatures. Rothman, A.J. Calif. Univ. Lawrence Radiation Lab., Berkeley, Rept. No. UCRL 2339 (1953) 107 pp CA 48 13308e MF No. 34-Z A3 B1 C2 D1 E1 F6 G6 *nitrogen, *carbon dioxide, *gaseous, *gaseous mixture, *binary system, *thermal conductivity, *argon, *helium
- 06071 Die Wärmeleitfähigkeit von Gasen bei niedrigen Drucken. The thermal conductivities of gases at low pressures. Wirth, H. Klemenc, A. Monatsh. Chem. 83, 879-82 (1952) 2 fig 1 tab 2 ref CA 48-13308d MF No. 35-F A3 B3 C2 D1 E1 F7 G1 *thermal conductivity, *methane, *gaseous, *ethylene, *propane, *argon, *hydrogen, *oxygen, *nitrogen
- 06072 Determination Des Elements Critiques du Methane. The critical constants of methane. Cardoso, Ettore. Arch. sci. phys. et nat. 36, 97-100 (1913) 1 ref MF No. 35-S A3 B2 C8 D2 E1 F7 G1 *methane, *critical constants, *gaseous
- 06073 Viskosität des flüssigen Methans und Äthylens in Abhängigkeit von der Temperatur. Variation in the viscosity of liquid methane and ethylene with temperature. Rudenko, N.S. Schubnikov, L.W. Physik. Z. Sowjetunion 6, 179-84 (1935) 2 fig 1 tab 2 ref MF No. 36-D A3 B3 C1 D1 E1 F7 G1 *viscosity, *liquid, *methane, *ethylene, temperature dependence
- 06074 Paramagnetic susceptibility of solid oxygen. Kanda, E. Hasegawa, T. Otsubo, A. Sci. Repts. Research Inst. Tohoku Univ. Ser. A 7, 1-5 (1955) CA 49 12062e MF No. 36-F A3 B1 C5 D1 E1 F7 G1 55 *oxygen, *solidified gas, *magnetic property, magnetic susceptibility, melting point, solid-solid transition, temperature effect
- 06080 Die Schmelzkurven der Gase A, Kr, X, CH₄, CH₃D, CD₄, C₂H₄, C₂H₆, CO₂ und PH₃ bis 200 atm. druck. Der volumensprung beim Schmelzen. Melting curves of the gases A, Kr, X, CH₄, CH₃D, CD₄, C₂H₄, C₂H₆, CO₂ and PH₃ to 200 atm. pressure. The volume change on melting. Clausius, K. Weigand, K. Z. physik. Chem. (Leipzig) B46, No. 1, 1-37 (1940) MF No. 36-C A3 B3 C2 D1 E1 F7 G1 *melting curve, *gas, *argon, *krypton, *xenon, *methane, *ethane
- 06081 The NBS-NACA tables of thermal properties of gases. Vapor pressure of oxygen. Hoge, H.J. Natl. Bur. Standards, Heat & Power Div., Table 9.50 (Dec 1949) 1 fig 2 tab 1 ref A3 B1 C7 D1 E2 F2 G6 *oxygen, *vapor pressure, *critical constant, *liquid
- 06083 The NBS-NACA tables of thermal properties of gases. Vapor pressure of argon. Hoge, H.J. Natl. Bur. Standards, Heat & Power Div., Table 19.50 (1950) 4 pp 1 fig 3 tab 8 ref A3 B1 C1 D1 E2 F2 G6 *vapor pressure, *gas, *argon, *boiling temperature, *critical
- 06084 Critical temperatures, pressures and volumes of hydrogen, deuterium and hydrogen deuteride. Hoge, H.J. Lassiter, J.W. J. Res. Natl. Bur. Standards 47, No. 2, 75-79 (Aug 1951) RP 2229 A3 B1 C1 D1 E1 F6 G1 *hydrogen, *deuterium, *hydrogen deuteride, *critical constants
- 06085 The NBS-NACA tables of thermal properties of gases. Table 7.50. Vapor pressure of three hydrogens. Hoge, H.J. Powell, R.L. Natl. Bur. Standards, Heat and Power Div., Table 7.50 (Sept 1950) 2 fig 5 tab 3 ref A3 B1 C6 D1 E2 F2 G9 *hydrogen, *hydrogen deuteride, *deuterium, *vapor pressure.
- 06087 Thermodynamic properties of methane. Mattheus, C.S. Hurd, C.O. Trans. Am. Inst. Chem. Eng. 42, 55-78 (1946) 1 fig 2 tab 19 ref MF No. 42-V A3 B1 C7 D1 E2 F6 G1 *vapor pressure, *density, *enthalpy, *entropy, *methane, *liquid, *gaseous, *PVT data, fugacity, superheated
- 06091 Compression of solid helium and other condensed gases at low temperature. Stewart, J.W. Bull. Am. Phys. Soc. 1, 218 (1956) Paper U-7, 1 tab 1 ref MF No. 45-U A3 B1 C1 D1 E1 F6 G1 *helium, *solidified gas, *hydrogen, *neon, *density, *compressibility, very high pressure
- 06092 The velocity of sound in liquid nitrogen. Hirschclaff, Ernst. Proc. Cambridge Phil. Soc. 34, 296-98 (1938) 3 fig 2 ref MF No. 44-F A3 B1 C7 D1 E1 F7 G1 38 *nitrogen, *velocity, *sound, *liquid, *compressibility
- 06093 Die Berechnung der Schallgeschwindigkeit in Gasen und Flüssigkeiten mittels einer neuen Thermischen Zustandsgleichung. Computation of velocity of sound in gases and fluids by means of a new thermal equation of state. Himpan, Joseph. Z. Physik 141, 566-70 (1955) 1 fig 10 ref MF No. 43-J A3 B3 C8 D1 E2 F7 G1 *equation of state, *velocity of sound, *gaseous, *carbon dioxide, *temperature effect, computation
- 06095 Thermodynamic properties of N₂ at low temperatures and at pressures up to 200 atmospheres. Gersh, S.Ya. Benjaminovich, O.A. Kislod 4, No. 5, 21-26 (1947) CA 46-84391 MF No. 35-K A3 B7 C7 D1 E2 F7 G1 47 *entropy, *gaseous, *nitrogen, high pressure, T-S diagram, *PVT
- 06099 Die Spezifischen Warmen Cp und Cv einiger Stoffe in festen, flüssigen und hyperkritischen Gebiet zwischen 80 degrees und 320 degrees abs. The specific heats Cp and Cv of some substances in solid, liquid and hypercritical range between 80 degrees and 320 degrees K. Eucken, A. Hauck, F. Z. physik. Chem. (Leipzig) 134, 161-77 (1928) MF No. 49-I A3 B3 C1 D1 E1 F7 G1 *specific heat, *thermal property, *solidified gas, *liquid, *argon, *carbon dioxide, *ethane, oxide of nitrogen, chlorine
- 06100 Conductibilité Thermique Des Gas Reels. Thermal conductivity of real gases. Waelbroeck, F. Lafleur, S. Frigoline, I. Physica 21, 667-75 (1955) 1 tab 17 ref CA 50 8275e MF No. 40-O A3 B2 C1 D1 E2 F6 G1 *diffusion, *dissociation, *thermal conductivity, real gas, theory, absorption, *argon, heat of formation, pressure
- 06101 The compressibility of gases VII. Argon in the temperature range 0-600 degrees C and the pressure range 10-80 atmospheres. Whalley, E. Lupien, Y. Schneider, W.G. Can. J. Chem. 31, 722-33 (1953) MF No. 48-Z A3 B1 C1 D1 E1 F7 G1 53 *argon, *equation of state, *gaseous, *compressibility

- 06103 Equation of state and elasticity of solid argon. Dobbs, E.R. J. Chem. Phys. 24, 477-78 (1956) MF No. 46-L A3 B1 C7 D1 E1 F6 G1 56
*argon, *velocity of sound, *equation of state, *density,
- 06104 Vitesse des ultrasons et rapport gamma des chaleurs spécifiques relatives l'argon et à l'azote sous pression. Velocity of ultrasonic waves and ratio of specific heats gamma in argon and nitrogen under pressure. Lacom, A. Noury, J. Compt. rend. 236, 2039-41 (1953) CA 49-9340 h MF No. 47-Y A3 B2 C2 D1 E1 F7 G1
*velocity of sound, specific heat ratio, *argon, *nitrogen,
- 06105 Constantes Thermodynamiques des Gaz aux Températures Eleves. Thermodynamic constants of gases at high temperatures. Ribaud, M.G. Publ. Sci. Tech. Min. Air (France) No. 266, 1-169 (1952) MF No. 47-S A3 B2 C7 D1 E2 F7 G1
*air, *oxygen, *nitrogen, *ammonia, *gaseous, *hydrogen, *helium, *argon, *carbon monoxide, *ethane, *methane, *specific heat, *carbon dioxide, *water, *ethylene, *acetylene, *critical constant, *inorganic fluid, sulfur dioxide, oxide of nitrogen, *specific heat, hydrogen chloride
- 06106 Zur Temperaturabhängigkeit der Wärmeleitfähigkeit einiger Gase. The temperature dependence of the thermal conductivity of a few gases. Franck, E.U. Z. Elektrochem. 55, 636-43 (1951) 13 tab 41 ref CA 46-4296a MF No. 47-O A3 B3 C1 D1 E2 F7 G1
temperature effect, *carbon dioxide, *nitrogen, *oxygen, *air, *helium, chlorine, *gaseous, *fluorine, *argon, *xenon, bromine, iodine, *thermal conductivity
- 06109 Les Equations d'état et les Propriétés Thermodynamiques des gaz Comprimés. Equations of state and the thermodynamic properties of compressed gases. Saurer, J. Genie chim. 79, No. 1, 12-22, 41-51 (Jan 1950) 17 fig 1 tab CA 1950-12491c MF No. 46-W A3 B2 C8 D3 E1 F7 G1
*gaseous, *specific heat, *nitrogen, *carbon monoxide, *ethane, *enthalpy, *entropy, *internal energy, *free energy, *carbon dioxide, *joule-thomson coefficient, inversion curve, *density
- 06110 Über die Zähigkeit von Gasen und Gasgemischen bei höheren Temperaturen. On the viscosity of gases and gaseous mixtures at high temperatures. Schaid, Christoph Gas-u. Wasserfach 85, 92-103 (1942) MF No. 48-Q A3 B3 C2 D1 E2 F7 G1
*gaseous mixture, *gas, *air, *carbon dioxide, *carbon monoxide, *methane, *ethylene, *nitrogen, *hydrogen, *viscosity, high temperatures, *oxygen, *gaseous
- 06112 Über den Quanteneffekt bei einatomigen Gasen und Flüssigkeiten. On the quantum effect in monatomic gases and fluids. Eucken, A. Deut. Akad. Wiss. Berlin 22, 682-93 (1914). MF No. 50-L A3 B3 C6 D1 E1 F7 G1
*specific heat, *hydrogen, *helium, *gaseous, temperature effect,
- 06113 Die Molekularwärme des Wasserstoffs bei tiefen Temperaturen. Molecular heats of hydrogen at low temperatures. Eucken, A. Sitzber. kgl. preuss. Akad. Wiss. 5, 141-51 (1912) MF No. 52-K A3 B3 C6 D1 E1 F7 G1
*specific heat, temperature effect, *hydrogen, *gaseous
- 06114 I. Calori Specifici Di Alcuni Gas Alle Alte Temperature. Specific heats of some gases at high temperatures. Pace, Nicola Termotecnica (Milan) 4, 345-48 (1950) MF No. 52-P A3 B5 C2 D1 E F7 G1
*specific heat, *carbon dioxide, water vapor, *hydrogen, *nitrogen, *carbon monoxide, *gaseous, high temperature
- 06120 Eigenschaften des Flüssigen und Festen Helium. Properties of liquid and solid helium. Grassman, P. Vierteljahrsschr. Naturforsch. Ges. Zuerich 102, No. 3, 61-87 (Jul 1957) 15 fig 13 ref MF No. 51-K A3 B3 C5 D1 E1 F7 G1
*helium, *solidified gas, *liquid, *melting curve, *entropy, *vapor pressure, *viscosity, *specific heat, *phase diagram,
- 06125 Compressibility of gases at high pressure and low temperatures. Kazarnovskii, Ya.S. Sidorov, I.P. Zhur. Fiz. Khim. 21, No. 11, 1363-70 (1947) MF No. 65-D A3 B7 C8 D1 E1 F7 G1 47
*oxygen, *nitrogen, *gaseous, *gaseous mixture, *binary system, *PVT data, compressibility factor
- 06127 Über die Änderung der Wärmeleitfähigkeit von Gasen in elektrostatischen. On the change in heat conductance of gases in electrostatic fields. Bonvitt, W. Grotzinger, G. Z. Physik 72, 600-12 (1931) 15 fig 3 tab 7 ref MF No. 64-F A3 B3 C2 D1 E1 F7 G1
*air, *carbon dioxide, *nitrogen, *ammonia, *organic fluid, inorganic fluid, electric field, ethyl chloride, acetone, *thermal conductivity
- 06131 The viscosity of gaseous He, Ne, H₂, and D₂ below 0.1 degrees K. Corns, J.M.J. Van Lierbeek, A. Beennker, J.J.M. Knap, H.F.P. Zandbergen, P. Commun. K. nederl. Onnes Lab. Univ. Leiden No. 311a (1958) (Repr. in: Physica 24, 557-76, 1958) MF No. 57-S A3 B1 C6 D1 E1 F7 G1 56
*helium, *neon, *hydrogen, *deuterium, *gaseous, *viscosity, reduced variable, intermolecular force, temperature effect,
- 06136 Die Spezifische Wärme und Schmelzwärme des Kondensierten Wasserdampfes. The specific heats and heat of fusion of condensed heavy hydrogen. Clusius, K. Bartholome, E. Nachr. Ges. Wiss. Göttingen Math.-physik. Kl. Fachgruppen: II. 1, No. 4, 29-39 (1934) MF No. 79-11 A3 B3 C6 D1 E1 F7 G1
*deuterium, *specific heat, *heat of fusion, *solidified gas,
- 06138 Gaseous heat capacities. I. The method and the heat capacities of C₂H₆ and C₂D₆. Kistinko-sky, G.B. Rice, W.W. J. Chem. Phys. 7, No. 5, 201-08 (May 1939) 3 fig 5 tab 9 ref MF No. 55-Q A3 B1 C2 D1 E1 F6 G1
*thermometry, *calorimetry, *specific heat, *air, *carbon dioxide, *ethane, *gaseous, *deutero compound
- 06143 Enthalpy-entropy diagram is developed for methane. Edmister, W.C. Oil Gas J. 35, No. 25, 50-52 (1936) 2 fig 4 ref CA 31-16903 MF No. 52-Q A3 B1 C1 D1 E2 F6 G1
*methane, *entropy, *enthalpy, *gaseous, *specific heat, *mollier diagram, *saturated vapor
- 06148 Specific heat and entropy of liquid helium between 0.75 and 1.5 degrees K. Markham, A.H. Wisconsin Univ., Madison, Ph.D. Thesis (1958) (Univ. Microfilms, Ann Arbor, Mich., L.C. Card No. Mic 58-815) MF No. 51-Y A3 B1 C4 D1 E1 F9 G7
*helium, *specific heat, *entropy, *liquid, temperature effect
- 06149 The molecular volumes and expansivities of liquid normal hydrogen and parahydrogen. Scott, R.B. Brickwedde, F.G. J. Chem. Phys. 5, 736-44 (1937) MF No. 124-O A3 B1 C1 D1 E1 F6 G1
molecular volume, *expansivity, *liquid, *hydrogen, *parahydrogen, boiling point, *phase change, lattice, *density, saturated liquid
- 06151 Les Nombres de Prandtl des Fluides Frigorifiques. The prandtl numbers of refrigerants. Cogegone, Cesare Inst. Intern. froid, Journees Mons, Belg., Commun., 61-66 (1953) CA 49 539f MF No. 50-W A3 B2 C8 D1 E2 F7 G1 53
*helium, *hydrogen, *air, *nitrogen, *oxygen, *carbon dioxide, *water, *ammonia, *methane, *gaseous, *viscosity, *thermal conductivity, *transport property, prandtl number;
- 06154 The viscosity of five gases: A re-evaluation. Kestin, J. Wang, H.E. Trans. Am. Soc. Mech. Engrs. 80, 11-17 (1958) MF No. 50-J A3 B1 C2 D1 E2 F6 G1 58
*viscosity, *air, *nitrogen, *hydrogen, *argon, *helium,
- 06155 Propagation of ordinary sound in liquid helium near the lambda point. Chase, C.E. Phys. Fluids, 1, 193-200 (1958) 7 fig 1 tab 15 ref MF No. 50-I A3 B1 C5 D1 E1 F7 G1 58
sound absorption, *velocity of sound, *liquid, *helium, lambda
- 06157 Coefficients of the cubical expansion of ice, hydrated salts, solid carbonic acid, and other substances at low temperatures. Devnar, James Proc. Roy. Soc. (London) 70, 237-46 (1902) MF No. 40-Y A2 B1 C7 D1 E2 F6 G1
*ice, *salts, *thermal expansion, coefficient of expansion, sulphate, chloride, alum, sulphur, *mercury, *sodium, *graphite, hydride, *carbon dioxide, *solidified gas, acid, *inorganic
- 06160 Theorie des Gaz et Equation d'etat. IX. Theory of gases and the equation of state. IX. Duclaux, J. J. Phys. Radium 11, No. 5, 235-40 (1950) CA 44-8183c MF No. 37-N A3 B2 C7 D1 E2 F7 G1
*oxygen, *gaseous, *equation of state, pressure effect, *PVT data, compressibility factor, saturated vapor
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temperature, *entropy, *density, second sound
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*carbon monoxide, *heat of vaporization, *melting temperature,
*specific heat, *phase transition property, *liquid,
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*air, *hydrogen, *carbon dioxide, *methane, *ethylene,
oxide of nitrogen, *oxygen, *carbon monoxide, *nitrogen
- 06321 Die Viskosität von flüssigen stickstoff, Kohlenoxyd, Argon
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*oxygen, temperature dependence
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hydrogen, *ortho para hydrogen
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dioxide, *helium, *argon, *nitrogen, nitrous oxide, sulfur
- 06326 Thermodynamische Onderzoekingen (Met uitzondering van dichteden
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MF No. 81-A A3 B4 C6 D2 E2 F7 G2 22
*hydrogen, *PVT data, compressibility factor, isotherm, *gaseous,
*helium, *argon, *neon, second virial coefficient, *ammonia,
*nitrogen, *oxygen, *equation of state, virial coefficient;
- 06327 The thermodynamic temperature scale below 80 degrees K. The
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*oxygen, *liquid, *boiling temperature
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second virial coefficient, third virial coefficient, *binary
system

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*argon, *neon, *nitrogen, *oxygen, *helium, *liquid, surface energy, *heat of vaporization, zero point energy
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*liquid mixture, *gaseous mixture, *argon, *oxygen, *vapor pressure, composition, *phase equilibrium
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Woolley, H.W. Scott, R.B. Brickwedde, F.G.
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A3 B1 C6 D1 E2 F6 G4
*hydrogen, *deuterium, *hydrogen deuteride, *gaseous, *specific heat, *entropy, *enthalpy, *free energy, *PVT data, *orthohydrogen, *liquid, *density, *vapor pressure, *melting curve, *solidified gas, *heat of vaporization, *heat of sublimation, *heat of fusion, *thermal conductivity, compressibility factor, second virial
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*nitrogen, *gaseous, *equation of state, benedict-webb-rubin equation, *gaseous, PVT data, vapor pressure, critical constants, Joule-thomson coefficient, second virial coefficient, enthalpy; A3 B1 C7 D1 E1
*nitrogen, *methane, *liquid mixture, *gaseous mixture, *binary system, *phase equilibrium, liquid-vapor equilibrium, equilibrium constant, *equation of state
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A3 B3 C6 D1 E1 F7 G1
*hydrogen, *heat of vaporization, *specific heat, *phase transition property, *solidified gas, *heat of fusion, *liquid

- 06376 Die Chemische Konstante des Wasserstoffs. The chemical constant of hydrogen.
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Makita, T.
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- 06398 Über die Spezifische Wärme einiger Kondensierbarer Gase Zwischen 10 degrees abs. und ihren Tripel Punkt. The specific heats of some condensed gases between 10 degrees abs and their triple points
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*nitrogen, *oxygen, *hydrogen, *carbon monoxide, *methane, hydrogen chloride, *specific heat
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Grumach, Leo
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Wroblewski, S.
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*methane, *critical temperature
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*para hydrogen, *deuterium, ortho deuterium, *solidified gas, *specific heat, lattice parameter, debye constant, temperature
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*oxygen, *gaseous, *PVT data, *density, *equation of state, second virial coefficient, *velocity of sound, *reduced variable, *critical constants, *heat of vaporization, compilation, entropy, *air, *joule-thomson coefficient, *enthalpy, compressibility factor, *specific heat, calculation, *nitrogen, third virial
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Dean, J.W.
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Olzewski, K.
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Natanson
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*hydrogen, *critical constant, expansion, theory
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*hydrogen, critical constant
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Devar, James
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- 06619 Das Wärmeleitvermögen einiger verfestigter Flüssigkeiten und gases. The thermal conductivity of some solidified liquids and gases.
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*inorganic fluid, hydrogen bromide, *organic fluid, benzene, *carbon dioxide, oxide of nitrogen, *solidified gas, *thermal conductivity, temperature effect
- 06620 On the pressures of saturation of oxygen
Estreicher, Thaddeus
Phil. Mag. 40, 454-63 (Jun 1895) 1 fig 7 tab 17 ref
MF No. 129-V A3 B1 C7 D1 E1 F6 G1
*oxygen, *vapor pressure, *liquid, law of corresponding states, ethylene, water
- 06621 The boiling point and density of liquid hydrogen.
Devar, J.
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A3 B1 C1 D E F7 G1
*boiling temperature, *density, *hydrogen, *liquid
- 06622 Boiling point of liquid hydrogen under reduced pressure.
Devar, J.
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A3 B1 C6 D1 E1 F6 G1
*boiling temperature, *hydrogen, vapor pressure, *liquid,
- 06628 The boiling point of liquid hydrogen as determined by a rhodium-platinum resistance thermometer.
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*boiling temperature, *hydrogen, *liquid
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Woolley, H.W.
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MF No. 111-R A3 B1 C7 D1 E2 F3 G6
*nitrogen, prandtl number, *density, *enthalpy, *entropy, *gaseous, *specific heat, *vapor pressure, *solidified gas, *liquid, *PVT data, *velocity of sound, *viscosity, *thermal conductivity
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isotherm, *nitrogen, *oxygen, *helium, *gaseous, *PVT data,
- 06649 Le diamètre rectiligne du neon. The rectilinear diameter of neon.
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MF No. 41-L A3 B2 C6 D1 E1 F7 G1
*neon, *density, *critical constant, *liquid, *gaseous, law of rectilinear diameter, temperature effect, saturated vapor
- 06659 Zero pressure properties of carbon monoxide and nitrogen.
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MF No. 110-K A3 B1 C8 D1 E1 F6 G1 59
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*equation of state, *carbon dioxide, *gaseous
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*transport property,ucken factor, *gaseous, *air, *nitrogen, *oxygen, *hydrogen, *methane, *carbon dioxide, *argon, *helium, *neon, krypton, xenon
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*nitrogen, *gaseous, *equation of state, virial coefficient, second virial coefficient, third virial coefficient, *PVT data,
- 06773 Further experiments with liquid helium. Isotherms of monatomic substances and their binary mixtures. XXIV. Isotherms of helium at 4.2 degrees K and lower. The variation of density of liquid helium below the boiling point.
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MF No. 123-G A3 B1 C5 D1 E1 F7 G1
*helium, *liquid, *density, temperature effect, *gaseous, *PVT data, compressibility factor, isotherm
- 06774 Isotherms of monatomic substances and their binary mixtures. XXIII. Isotherms of helium from 20 degrees to -259 degrees C.
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- 06776 Isotherms of mon-atomic substances and their binary mixtures. XXV. The same of di-atomic substances. XXXI. the compressibility of hydrogen and helium-gas between 90 degrees and 14 degrees K.
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- 06781 Compressibility isotherms of oxygen at 0 degree, 25 degrees and 50 degrees C and at pressures up to 135 atmospheres.
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*hydrogen, isotherm, *gaseous, *PVT data, pressure effect
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*helium, *gaseous, *PVT data, compressibility factor, *density, virial coefficient, second virial coefficient,
- 06804 Isotherms of monatomic gases and their binary mixture II. Isotherms of helium at -253 degrees C and -259 degrees C.
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*helium, *gaseous, *PVT data, compressibility factor,
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MF No. 122-B A3 B1 C7 D1 E2 F7 G1
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Koeppel, W.
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MF No. 123-Y A3 B1 C8 D1 E1 F6 G1 24
*oxygen, isotherm, *PVT-data, *gaseous
- 06815 Isotherms of diatomic substances and their binary mixtures XXVIII. On the isotherms of nitrogen at low temperatures.
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MF No. 117-O A3 B1 C2 D1 E1 F6 G1
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*nitrogen, *oxygen, *neon, *argon, *critical constant, *hydrogen, *equation of state, *gaseous, second virial coefficient;
- 06853 Second virial coefficients and specific heats of oxygen.
Van Lameren, J.J.
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MF No. 15-J A3 B1 C7 D1 E1 F6 G1
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- 06917 Investigaciones Experimentales Sobre Gases Relacionadas Con El Metodo De Las Densidades Limites Y La Determinacion Rigurosa De Masas Moleculares Y Atomicas. I. Resultados Obtenidos Para El O2 Y El SO2: Masa Atomica Del Azufre. Experimental investigations of gases based on density limits and the rigorous determination of molecular and atomic masses. I. Results on oxygen and SO2: The atomic mass of sulfur.
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*PVT data, compressibility factor, pressure effect
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*argon, *density, *gaseous, *PVT data, compressibility factor,
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*equation of state, *helium, *neon, *argon, *hydrogen, *nitrogen, *oxygen, *air, *carbon dioxide, *methane, *gaseous, beattie-bridgman equation, *PVT data, *density
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- 06936 Ultraschallgeschwindigkeiten in Stickstoff, Stickoxyd und Kohlenoxyd zwischen 20 und 200 degrees C, gemessen mit einem neuen Verfahren. The ultrasonic velocity of sound in nitrogen, nitric oxide, and carbon dioxide between 20 degrees to 200 degrees C, measured by a new method
Bender, D.
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*equation of state, *thermodynamic properties, *gaseous mixture, *hydrocarbon, *liquid, *ethane, *methane, *propane, *butane,
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MF No. 121-V A3 B1 C2 D1 E1 F6 G1
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- 06995 The compressibility of five gases to high pressures
Bridgman, P.W.
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*helium, *ammonia, *nitrogen, *argon, very high pressure
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*density, *heat of fusion;
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expansion, *expansivity, temperature effect, *water, *solidified
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*glass, borosilicate glass, sodium, alum, sulfur;
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*carbon dioxide, *gaseous
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*heat of vaporization, *density, *vapor pressure, *entropy,
*enthalpy, T-S diagram;
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*specific heat, *solidified gas, *density, *velocity of sound
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solubility, henry coefficient, second virial coefficient
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helium 4, lambda temperature, *thermal conductivity,
*viscosity, second sound
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*argon, *oxygen, *methane, *organic liquids, *critical constants,
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*gaseous, *specific heat;
A3 B3 C6 D1 E1
*hydrogen, normal hydrogen, *parahydrogen, *solidified gas,
*liquid, *specific heat, *boiling temperature, *triple point
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*oxygen, melting temperature
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 *cryopumping, *fluid flow, *vapor pressure, *water, *carbon
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 *boiling temperature, *ethane, oxide of nitrogen, *propene,
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sound, pressure effect
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*velocity of sound, high pressure, pressure effect
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*oxygen, *nitrogen, *argon, *hydrogen, para hydrogen, *deuterium,
*helium, *hydrogen deuteride, second virial coefficient
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pressure effect, *hydrogen, *helium, *nitrogen, *argon, *air
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*nitrogen, pressure effect, *equation of state
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equation, *nitrogen, *oxygen, concentration effect
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*compressibility, *entropy
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*equation of state, *vapor pressure, *heat of vaporization,
second virial coefficient, *heat of sublimation, temperature
effect, saturated liquid, *density, *specific heat
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*density
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*carbon monoxide, *methane, *air, *compressibility factor,
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*gaseous mixture, *helium, *PVT data, *equation of state, second
virial coefficient, *density, concentration effect, temperature
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index, lorentz function
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*ethylene, *propane, *butane, *rare gas, xenon, *carbon dioxide,
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*specific heat, *viscosity, specific heat ratio, *velocity of sound,
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*oxygen, *liquid, *solid, calculation, *heat of vaporization, *phase transition property, saturated liquid, *density, *triple point, *entropy, *enthalpy, *vapor pressure, second virial
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*oxygen, *liquid, *solidified gas, *boiling temperature, *triple point, *heat of vaporization, *heat of fusion, *phase transition property, solid-solid transition, *specific heat, *density, *equation of state, compilation, *vapor pressure, *heat of sublimation, *entropy, T-S diagram, calculation
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*parahydrogen, *liquid, *solidified gas, *boiling temperature, *triple point, *heat of fusion, *heat of vaporization, *vapor pressure, *entropy, *heat of sublimation, T-S diagram, calculation, temperature effect
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Guldner, L.A.
J. Research Natl. Bur. Standards 66A, No. 4, 341-47 (Jul-Aug 1962) 6 fig 3 tab 3 ref
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*carbon dioxide, *gaseous, *liquid, *critical region, *thermal conductivity, *density, pressure effect, *heat transfer, *fluid
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Ocar, M.H. Dokoupil, Z.
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A3 B1 C6 D1 E1 F6 G1
*liquid mixture, *hydrogen, *oxygen, *phase equilibrium, solid-vapor equilibrium, *PVT data, isotherm, isobar, *binary
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Ent, W.L.
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- 12919 Statistical mechanics of the ideal inert gas solids
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*neon, *argon, *rare gas, *specific heat, krypton, xenon, *thermal property, *solidified gas, lattice parameter,
- 12925 Thermal conductivity of solid argon
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- 12977 Relation between thermal conductivity and viscosity for some nonpolar gases
O'Neal, C.Jr. Brokaw, R.S.
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*compressibility factor, *argon, *reduced variable, enskog formula, theory of corresponding states

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*propellant, *liquid, hydrogen peroxide, melting temperature, *boiling temperature, *heat of vaporization, *fluorine, *oxygen, *ozone, *ammonia, boron hydride, *hydrogen, *methane, *specific heat
- 13036 On the thermodynamic phase diagrams of helium three
Goldstein, Louis
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A3 B1 C4 D3 E3 F6 G1
*helium, helium 3, *melting curve, *liquid, *PVT data, *expansivity, thermal expansion, anomaly, *solidified gas
- 13047 A parametric study of certain low-molecular-weight compounds as nuclear rocket propellants, I. Hydrogen
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- 13081 The thermal conductivity of ideal dielectric crystals
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- 13098 Temperature measurements with an acoustical thermometer
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- 13110 The condensed-phase diagram of the ternary system oxygen-nitrogen-argon.
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A3 B1 C7 D3 E1 F7 G2 G3
*ternary system, *oxygen, *nitrogen, *argon, *liquid mixture, *phase equilibrium, *phase diagram, liquid-vapor equilibrium,
- 13113 Viscosity measurements of gases between 20 and 80 degrees K
Coremans, J.M.J. Beenakker, J.J.M. Van Itterbeek, A. Zandbergen, P.
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- 13114 The influence of the density on the viscosity of helium gas at liquid hydrogen temperatures
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*helium, *gaseous, *viscosity, *density, temperature effect,
- 13125 Density of liquid oxygen between 90 degrees and 105 degrees K as a function of pressure and temperature
Rickerson, B.W.A.
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- 13128 Refractive index of 4He
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- 13129 Determination of thermodynamic properties of helium from dielectric constant measurements
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- 13130 Vapor pressure temperature scale for the liquid 4He region
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*helium, helium 4, *liquid, *vapor pressure, temperature effect,
- 13161 Vapor pressure data for some common gases
König, R.E. Rook, H.O.
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*argon, *methane, *carbon monoxide, *hydrogen, *rare gas, krypton, *nitrogen, xenon, *neon, *oxygen, melting temperature, *boiling temperature, *vapor pressure, *phase transition property,
- 13228 Solidification of helium at 77 degrees K
Langer, D.W.
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*helium, helium 4, *solidified gas, *vapor pressure, equation,
- 13247 Density of liquid oxygen
Tans, A.M.P.
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- 13270 Viscosity of binary mixtures of hydrogen isotopes and mixtures of He and Ne
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- 13296 Soortelijke warmten van heliumdampen beneden 4.2 degrees K. Specific heats of helium vapours below 4.2 degrees K
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enrichment, *phase equilibrium, solid-vapor equilibrium, *carbon dioxide, *nitrogen, *binary system, *gaseous mixture, *equation of state, benedict-webb-rubin equation of state,
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vacuum techniques, vacuum gage, *refrigeration, review, *critical constant, *boiling temperature, *carbon dioxide, *thermal properties, *refrigerant, sulfur dioxide, *ammonia, freon 11, freon 12, freon 22, freon 113, methyl chloride
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- 13378 The heat of vaporization of oxygen, nitrogen and air
Shearer, J.S.
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Grilly, E.R.
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Martin, J.J.
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*refrigerant, freon, *liquid, *gaseous, *vapor pressure, *PVT data, *equation of state, *density, saturated liquid, *critical constants, *specific heat
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*hydrogen, *neon, *gaseous mixture, *binary system, *transport property, diffusion coefficient, *thermal conductivity, *argon,
- 15641 Contribution to the analysis of molecular interactions in compressed nitrogen and carbon monoxide. Part II. Quadrupole moments and properties of the solid states.
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A3 B1 C5 D1 E3 F6 G1 54
*carbon monoxide, *nitrogen, *solidified gas, *density, *phase transition property, solid-solid transition, crystal structure, *internal energy, theory, dipole moment, quadrupole moment, *reduced variable;
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A3 B1 C8 D3 E3 F6 G1
*nitrogen, *carbon monoxide, *gaseous, *entropy, *internal energy, *specific heat, intermolecular force, Lennard-Jones
- 15643 On the theory of transitions in molecular crystals.
Jansen, L. de Wette, F.W.
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*carbon monoxide, *nitrogen, *oxygen, *solidified gas, *phase transition property, solid-solid transition, theory

- 15644 Volume explicit virial equations of state for carbon dioxide. Van Huff, N.E. Pittsburgh Univ., Penn. Master Thesis (1959) 77 pp 12 fig 5 tab 18 ref
A3 B1 C8 D1 E3 F9 G7
*carbon dioxide, *gaseous, *equation of state, virial coefficient, compilation, *PVT data, compressibility factor,
- 15645 Transport properties of carbon dioxide. Kennedy, J.T. Northwestern Univ., Evanston, Ill. Master Thesis (1959) 57 pp 14 fig 1 tab 103 ref
A3 B1 C8 D1 E2 F9 G7
*carbon dioxide, *gaseous, *liquid, *viscosity, *thermal conductivity, *transport property, *density, diffusion
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A3 B1 C2 D1 E1 F9 G7
*carbon dioxide, *helium, *gaseous mixture, *binary system, *joule-thomson coefficient, *nitrogen
- 15650 The construction of an enthalpy - correction chart. Kordbach, Reza Tulsa Univ., Oklahoma, Master Thesis (1958) 30 pp 2 fig 4 tab 9 ref
A3 B1 C8 D1 E3 F9 G7
*enthalpy, *gaseous, *reduced variable, correction, *carbon dioxide, *butane, isobutane, *methane, *ethane
- 15651 Thermal conductivity of diatomic fluids in the liquid and gaseous states. Schaefer, C.A. Northwestern Univ., Evanston, Ill. Master Thesis (1958) 93 pp 19 fig 6 tab 211 ref
A3 B1 C8 D1 E2 F9 G7
*halogen, bromine, chlorine, iodine, *inorganic fluid, hydrogen bromide, hydrogen chloride, hydrogen fluoride, oxide of nitrogen, *gaseous, *liquid, *thermal conductivity, reduced variable, law of corresponding states, *carbon monoxide, *fluorine, *hydrogen, *nitrogen, *oxygen, compilation
- 15652 The effect of composition on compressibility of hydrocarbon gases. Veught, J.D.Jr. Oklahoma Univ., Norman, Master Thesis (1959) 29 p 4 fig 9 tab 6 ref
A3 B1 C2 D1 E1 F9 G7
*methane, *gaseous, *PVT data, compressibility factor, *binary mixture, *nitrogen, *gaseous mixture
- 15653 The viscosity of nitrogen, helium, neon, and argon from -78.5 degrees C to 100 degrees C below 200 atmospheres. Flynn, G.P. Hanks, R.V. Lemaire, N.A. Ross, J. Brown Univ., Metcalf Chem. Lab., Providence, R.I. Tech. Rept. No. BRN-3-P (Nov 1962) Contr. No. Nonr 3623(00) NR-098-038, 44 pp 8 fig 6 tab 46 ref
A3 B1 C8 D1 E1 F3 G5
*helium, *nitrogen, *neon, *argon, *gaseous, *viscosity, temperature effect, pressure effect, *density
- 15654 Isotherms of methane at pressures to 80 atmospheres. Richardson, A.C.B. Maryland Univ., College Park, Master Thesis (1959) 66 pp 11 fig 14 tab 29 ref
A3 B1 C8 D1 E1 F9 G7
*methane, *gaseous, *PVT data, compressibility factor, *density, isotherm, *equation of state, virial coefficient, second virial
- 15679 The thermal expansion of hydrogen and ethylene. Housley, R.M. Rice Inst., Houston, Tex. Master Thesis (1959) 26 pp 13 fig 9 ref
A3 B1 C6 D1 E1 F9 G7
*hydrogen, *ethylene, *solidified gas, *expansivity, thermal expansion, temperature effect
- 15680 Enthalpies and partial molal enthalpies for methane-carbon dioxide system. Pass, Isaac Newark College of Engineering, N.J. Master Thesis (1959) 41 pp 13 fig 9 tab 8 ref
A3 B1 C2 D1 E3 F9 G7
*carbon dioxide, *methane, *gaseous mixture, *binary system, *gaseous, *enthalpy, calculation
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*helium, *boiling temperature, *liquid
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A3 B1 C6 D1 E1 F7 G1
*parahydrogen, *solidified gas, *density, crystal structure, spectroscopic data
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A3 B1 C7 D1 E2 F5 G6
*argon, *helium, *carbon monoxide, *hydrogen, *oxygen, *ozone, *water, hydrogen peroxide, *gaseous, *entropy, *free energy, *specific heat, *enthalpy, equilibrium constant, *methane, *acetylene, *ethylene, *ethane, *propane, *carbon dioxide,
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*hydrogen, *water, *gaseous mixture, *binary system, *enthalpy,
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A3 B1 C7 D1 E2 F9 G7
*methane, *liquid, *vapor pressure, *density, saturated liquid, *gaseous, saturated vapor, *specific heat, *enthalpy, *entropy, *heat of vaporization, *triple point, *boiling temperature, *critical constant
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A3 B1 C7 D1 E1 F6 G1
*viscosity, *liquid, *argon, *oxygen, *methane, krypton, *rare
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A3 B1 C8 D1 E1 F6 G1
*ethane, *gaseous, *PVT data, isotherm, *thermodynamic
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A3 B1 C8 D1 E3 F6 G1
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*binary system, *viscosity, *liquid mixture, *argon, *methane,
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A3 B1 C8 D1 E1 F6 G1
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A3 B1 C6 D3 E2 F6 G1
*argon, *solidified gas, *density, theory, *compressibility, *expansivity, *specific heat, temperature effect

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- 16077 On the measurement of temperature. Part II. On the vapour pressures of liquid oxygen at temperatures below its boiling-point on the constant-volume hydrogen and helium scales. Travers, M.W. Senter, G. Jaquero, A. Phil. Trans. Roy. Soc. London A200, 135-54 (1903) 3 fig MF No. 171-V A3 B1 C7 D1 E1 F7 G1 *oxygen, *liquid, saturated liquid, *vapor pressure, *boiling temperature
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- 16097 Isotherms of diatomic gases and their binary mixtures. VI. Isotherms of hydrogen between -104 degrees C and -217 degrees C. Onnes, H.K. Braak, C. Commun. Phys. Lab. Univ. Leiden No. 99a, 2-5 (1907) 1 tab Trans. from Verslag. Gewone Vergader. Afdel. Natuurk. Koninkl. Ned. Akad. Wetenschap. 162-63 (Jun 1907) MF No. 171-L A3 B1 C7 D1 E1 F7 G1 *hydrogen, *gaseous, *density, *PVT DATA, compressibility factor,
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- 16108 Dichte und Temperatur. VI. Density and temperature. VI. Herz, W. Z. Elektrochem. 33, 348-49 (1927) 5 tab 2 ref MF No. 172-N A3 B3 C7 D1 E1 F7 G1
*argon, *organic fluid, ester, acid, *halogen, chlorine, *nitrogen, *liquid, *density, temperature effect
- 16109 Calculation of the vapor pressure and heats of vaporization and sublimation of liquids and solids, especially below one atmosphere. IV. Nitrogen and fluorine. Ziegler, W.T. Mullins, J.C. Georgia Inst. Technol. Eng. Expt. Sta. Atlanta, Tech. Rept. No. 1 (Apr 1963) Contr. No. CST-7404, 59 pp 8 fig 17 tab 88 ref A3 B1 C6 D1 E2 F8 G5
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- 16120 Ueber einige eigenschaften des flussigen stickstoffs. About some properties of liquid nitrogen. Erdmann, H. Ber. deut. chem. Ges. 39, 1207-11 (1906) 1 tab 10 ref MF No. 171-W A3 B3 C8 D1 E2 F7 G1
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- 16123 Die Unstetigkeit im thermischen und kalorischen Verhalten des Methans bei 20,4 degrees abs. als Phasenumwandlung zweiter Ordnung. The change in the thermal behavior of methane at 20 degrees K for the second order phase transition. Clusius, K. Perlick, A. Z. physik. Chem. B24, 313-27 (1934) 6 fig 28 ref A3 B3 C6 D1 E1 F7 G1
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- 16125 The transition temperature in liquid helium. Brush, S.G. Proc. Roy. Soc. (London) A242, 544-57 (1957) 2 fig 3 tab 21 ref A4 B1 C5 D1 E3 F6 G1
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*parahydrogen, *specific heat, *liquid, *thermal expansion,
- 16152 Interrelation of thermal conductivity and viscosity of binary gas mixtures. Saxena, S.C. Agrawal, J.P. Proc. Phys. Soc. (London) 80, No. 1, 313-15 (1962) 1 tab 7 ref MF No. 171-X A3 B1 C2 D1 E2 F6 G1
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- 16156 Argon-oxygen-nitrogen three component system experimental vapor-liquid equilibrium data. Israel, L. Sterner, C.J. Wilson, G.M. Air Products and Chemicals, Inc., Res. Develop. Dept. Allentown, Pa. Quart. Progr. Rept. No. 1 (Oct 1962) Contr. No. AF 33 (657)-8742, 33 pp 9 fig 4 tab A3 B1 C7 D1 E1 F8 G5
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- 16163 Ortho-para hydrogen and deuterium conversion. Sitney, L. Phillips, T.J. Vesselsky, V.V. Johnston, H.L. Ohio State Univ. Cryogenic Lab., Columbus, Tech. Rept. (Apr 1952) Contr. No. W35-038-nc-17721, 73 pp 4 fig 34 tab 118 ref A6 B1 C6 D1 E2 F5 G5 52
*ortho-para conversion, hydrogen, deuterium, ortho-para
- 16200 Analyses of experimental thermal values and equation of state for hydrogen. Rabinovich, V.A. Inzhener. Fiz. Zhur. Akad. Nauk Belorus S.S.R. 5, No. 5, 30-37 (1962) 3 fig 2 tab 19 ref (Trans. by Foreign Technol. Div., AF Systems Command Wright-Patterson AFB, Ohio, Trans. No. FTD-TT-62-1569, Jan 1963) NASA 64-22625 MF No. 19-O A3 B1 C6 D1 E3 F7 G1 G2
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- 16211 Contribution a l'etude du point critique. Contribution to the study of the critical point. Cardoso, E. J. Chim. Phys. 10, 470-97 (1912) MF No. 172-L A3 B2 C2 D1 E2 F7 G1
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- 16213 Formulation and digital coding of approximate hydrogen properties for application to heat-transfer and fluid-flow computations. Harry, D.P. III. Natl. Aeronaut. Space Admin. Tech. Note No. D-1664 (1963) 72 pp 7 fig 4 tab 17 ref A3 B1 C6 D3 E3 F3 G6
*hydrogen, *equation of state, virial coefficient, *density, *specific heat, *enthalpy, *gaseous, *ortho para hydrogen,
- 16214 Thermodynamic properties of argon. Flubacher, P. Leadbetter, A.J. Morrison, J.A. Proc. Intern. Conf. Low Temp. Phys., 7th, Toronto, Canada, 1960, 695-97 (1961) 2 fig 9 ref A3 B1 C5 D1 E1 F6 G2
*argon, debye constant, *solidified gas, *specific heat, *heat of vaporization, *heat of fusion, *vapor pressure
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*oxygen, melting temperature, *neon, *critical constants,
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MF No. 176-K A3 B1 C5 D1 E1 F7 G1
*helium, *liquid, saturated liquid, *density, *heat of vaporization, *gaseous, saturated vapor, *vapor pressure
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*helium, helium I, helium II, *liquid, *vapor pressure, lambda
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Mathies, E. Onnes, H.K.
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*oxygen, *liquid, *gaseous, saturated liquid, saturated vapor, *density, rectilinear diameter
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*helium, *melting curve, temperature effect, helium 4
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- 16366 Specific heat of liquid He4 between 0.4 and 1.5 degrees K.
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Lochtermann, E.
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*nitrogen, *gaseous, *viscosity, pressure effect
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*oxygen, *carbon dioxide, *vapor pressure, *liquid, *boiling temperature
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*phase equilibrium, gas-liquid equilibrium, *oxygen, *vapor pressure, vapor pressure of mixture, *rare gas, krypton,
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*triple point, *nitrogen, *oxygen
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*film, *cadmium, *electrical conductivity, *superconductor, *helium, helium 3, helium 4, vapor pressure, *liquid
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MF No. 177-Z A3 B2 C7 D1 E1 F7 G1
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*neon, *equation of state, *density, saturated vapor, saturated liquid, *entropy, T-S diagram, *enthalpy, *triple point, *critical constants, *vapor pressure, *liquid, *gaseous
- 17018 Properties of some cryogenic liquids from velocity of sound data.
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A3 B1 C6 D1 E1 F8 G9
*oxygen, *nitrogen, *argon, *hydrogen, *parahydrogen, *velocity of sound, *density, *specific heat, *compressibility, *expansivity
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*thermodynamic property, *helium, *hydrogen, *parahydrogen, *neon, *nitrogen, *oxygen, *carbon monoxide, *argon, review
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*liquid mixture, *oxygen, *argon, *binary system, *density, *viscosity, *surface tension, temperature effect, excess property
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Tarimov, A.A.
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A3 B1 C7 D3 E3 F6 G1
*thermal conductivity, *neon, *argon, krypton, xenon, *rare gas, temperature effect, *viscosity, *gaseous, *reduced variable
- 17211 Calculation of the vapor pressure and heats of vaporization and sublimation of liquids and solids, especially below one atmosphere. V. Carbon monoxide and carbon dioxide.
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*carbon monoxide, *carbon dioxide, *liquid, *boiling temperature, *triple point, *specific heat, lattice parameter, *vapor pressure, *solidified gas, second virial coefficient, *entropy, *heat of sublimation, *heat of vaporization, solid-solid transition
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*argon, *specific heat, *critical region, *gaseous
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*argon, *equation of state, *methane, *density, *liquid, *specific heat, *specific heat ratio, *entropy, *velocity of sound, *PVT data, *vapor pressure, second virial coefficient, third virial coefficient, virial coefficient
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A3 B1 C5 D1 E3 F6 G2 G4
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- 17443 Pressure-volume-temperature relations and intermolecular potentials for methane and tetrafluoromethane.
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Hinter, C.C.
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A3 B1 C8 D1 E1 F5 G6
*thermal conductivity, *gaseous mixture, *binary system, *hydrogen, *argon, *nitrogen, *carbon dioxide, *air, *gaseous, pressure effect, oxide of nitrogen, *inorganic fluid, *deuterium

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17619 DIOXIDE, WATER, AIR
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ENTROPY
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17638 NITROGEN, RARE GAS, ALLOY
17663 See Appendix
17679 THERMODYNAMIC PROPERTIES OF CH₄ AND CD₄. INTERPRETATION OF
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COLWELL, J.H., GILL, E.K., MORRISON, J.A.
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A3 B1 C5 D1 E1 F6 G1
METHANE, DEUTERO COMPOUND, DEUTERO METHANE, SPECIFIC HEAT,
HEAT OF FUSION, HEAT OF VAPORIZATION, EXCESS PROPERTY, ENTROPY,
HEAT OF SUBLIMATION, SOLIDIFIED GAS, LIQUID, SOLID-SOLID
TRANSITION, TRIPLE POINT, PHASE TRANSITION PROPERTY
- 17718 ROLE OF ATOM-PAIR EXCHANGES IN THE MELTING OF NE, A,
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A4 B1 C2 D1 E
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- 17722 SURFACE TENSION OF LIQUID HE4.
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- 17730 See Appendix
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CARBON MONOXIDE, FREE ENERGY, EXCESS PROPERTY, VAPOR PRESSURE
OF MIXTURE, DENSITY, MOLECULAR VOLUME
- 17833 See Appendix
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A3 B1 C5 D1 E1
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CONSTANT
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INORGANIC FLUID, HYDROGEN CHLORIDE, HYDROGEN BROMIDE, HYDRIDE,
FLUORIDE, SILICON, SOLID-SOLID TRANSITION, HIGH PRESSURE
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EQUATION OF STATE, SECOND VIRIAL COEFFICIENT, THIRD VIRIAL
COEFFICIENT, VIRIAL COEFFICIENT, PVT DATA, WATER, SOLIDIFIED
GAS, ICE, THERMAL CONDUCTIVITY
- 17961 ON THE DETERMINATION OF MOLECULAR FIELDS. I. FROM THE
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INTERMOLECULAR FORCE, ATOMIC MOLECULAR PROPERTY, EQUATION OF
STATE, SECOND VIRIAL COEFFICIENT
- 17962 DIE REIBUNG, WÄRMELEITUNG UND DIFFUSION IN GASMISCHUNGEN. VI.
REIBUNGSBESTIMMUNG AN REINEN GASEN DURCH DIREKTE MESSUNG UND
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ARGON, GASEOUS MIXTURE, BINARY SYSTEM
- 17964 DETERMINATION OF VISCOSITIES AND OF THE STOKES-HILLIARD LAW
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MF NO. 186-Z A3 B1 C8 D1 E1 F6 G1
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ETHANE, CARBON DIOXIDE, INORGANIC FLUID, OXIDE OF NITROGEN,
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A3 B3 C8 D1 E1 F9 G7
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TEMPERATURE EFFECT
- 18075 See Appendix
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CONSTANT, SPECIFIC HEAT, ENTROPY, ENTHALPY, GASEOUS MIXTURE,
PVT DATA, MOLLIER DIAGRAM, SATURATED LIQUID, SATURATED VAPOR,
VAPOR PRESSURE OF MIXTURE
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A3 B1 C6 D2 E1 F8 G9 G3
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STATE, VIRIAL COEFFICIENT, SPECIFIC HEAT, VELOCITY OF
SOUND, ENTROPY, JOULE-THOMSON COEFFICIENT, VAPOR
PRESSURE, CALCULATION,
A6 B1 C6 D2 E1
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- 18126 See Appendix
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MF NO. 179-F A3 B3 C2 D3 E3 F7 G1
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NUMBER, DENSITY, ENTHALPY, SPECIFIC HEAT, THERMAL
CONDUCTIVITY, INTERNAL ENERGY
- 18131 SECOND VIRIAL COEFFICIENT OF KRYPTON AT LOW TEMPERATURES.
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COEFFICIENT, GASEOUS
- 18132 See Appendix

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18162 *SOLUTION, *ENTHALPY, KRYPTON, VAPOR PRESSURE OF MIXTURE
See Appendix
- 18303 HIGH TEMPERATURE THERMAL CONDUCTIVITY OF GASES. MEASUREMENTS ON NITROGEN, CARBON DIOXIDE, ARGON, AND NITROGEN-CARBON DIOXIDE MIXTURES AT TEMPERATURES UP TO 775 DEGREES C.
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*THERMAL CONDUCTIVITY, *NITROGEN, *ARGON, *GASEOUS, *CARBON DIOXIDE
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*SPECIFIC HEAT, *SPECIFIC HEAT RATIO, *GASEOUS, *NITROGEN, *INORGANIC FLUID, OXIDE OF NITROGEN, SULFUR DIOXIDE, *ARGON, *CARBON DIOXIDE, EQUATION, CALCULATION, VELOCITY OF SOUND
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*ARGON, *GASEOUS, *SPECIFIC HEAT, SPECIFIC HEAT RATIO, *PVT DATA, *VELOCITY OF SOUND, *DENSITY, PRESSURE EFFECT
- 18345 RONTGENGRAPHISCHE UNTERSUCHUNGEN AN FESTEN STICKSTOFF UND SAUERSTOFF. X-RAY INVESTIGATION OF SOLID NITROGEN AND OXYGEN.
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*SOLIDIFIED GAS, *NITROGEN, *OXYGEN, CRYSTAL LATTICE PROPERTY, X-RAY, *TRANSFORMATION, SOLID SOLID TRANSITION, CRYSTAL STRUCTURE
- 18488 LOW-TEMPERATURE ABSORPTION REFRIGERATION SYSTEMS IN CHEMICAL PROCESS ENGINEERING.
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*REFRIGERANT, FREON 12, FREON 13, FREON 22, *SPECIFIC HEAT, *LIQUID, AMINE, *HEAT OF VAPORIZATION, METHYL, ETHYL, *ORGANIC FLUID, MELTING POINT
- 18490 TRANSPORT PHENOMENA OF GASES UNDER HIGH PRESSURES. II. THERMAL CONDUCTIVITY.
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*NITROGEN, *GASEOUS, *THERMAL CONDUCTIVITY, *ARGON, *RARE GAS, KRYPTON, XENON, *HYDROGEN, *OXYGEN, *CARBON DIOXIDE, *AMMONIA, *METHANE, *ORGANIC FLUID, BENZENE
- 18491 NOUVELLES DETERMINATIONS DES TENSIONS DE VAPEUR DES ISOTOPES DU NEON. NEW DETERMINATION OF THE VAPOR PRESSURES OF THE ISOTOPES OF NEON.
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- 18492 A PARTITION FUNCTION FOR NORMAL LIQUIDS.
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*ARGON, *LIQUID, *DENSITY, *VAPOR PRESSURE, MELTING TEMPERATURE, *CRITICAL CONSTANTS, *SPECIFIC HEAT, SECOND VIRIAL COEFFICIENT, *NITROGEN, *ORGANIC FLUID, BENZENE
- 18493 SOME THERMODYNAMIC PROPERTIES AND RATE PROCESSES AT SURFACES.
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- 18500 INVESTIGATION OF THE EQUILIBRIUM OF THE COEXISTENCE OF THE LIQUID AND GASEOUS PHASES OF THE BINARY SYSTEM METHANE-ETHYLENE.
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*METHANE, *ETHYLENE, *GASEOUS MIXTURE, *LIQUID MIXTURE, *BINARY SYSTEM, *PHASE EQUILIBRIA, LIQUID-VAPOR EQUILIBRIUM, *PVT DATA
- 18501 THE VELOCITY OF ULTRASONIC PULSES IN HYDROGEN BETWEEN 60 AND 90 DEGREES K AS A FUNCTION OF PRESSURE.
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*HYDROGEN, *GASEOUS, *VELOCITY OF SOUND, PRESSURE EFFECT, TEMPERATURE EFFECT, SPECIFIC HEAT RATIO
- 18502 DIGITAL PROGRAMS FOR PARA HYDROGEN PROPERTIES.
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- 18505 THE DIFFERENCE IN THE VAPOR PRESSURES, HEATS OF VAPORIZATION, AND TRIPLE POINTS OF NITROGEN (14) AND NITROGEN (15) AND OF AMMONIA AND TRIDEUTERO-AMMONIA.
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*NITROGEN, *ISOTOPE, *VAPOR PRESSURE, *LIQUID, *HEAT OF VAPORIZATION, *TRIPLE POINT,
*AMMONIA, *SOLIDIFIED GAS, *DEUTERO COMPOUND, *ISOTOPE, *VAPOR PRESSURE, *LIQUID, *TRIPLE POINT
- 18509 ERGEBNISSE DER TIEFTEMPERATURFORSCHUNG XX. DIREKTER VERGLEICH DER DAMPF-DRUCKE VON 14N2, 14N15N UND 15N2 SOWIE VON 14N16O UND 14N18O ZWISCHEN IHREN SCHMELZ- UND SIEDEPUNKTEN. RESULTS OF LOW TEMPERATURE RESEARCH. DIRECT COMPARISON OF VAPOR PRESSURE OF 14N2, 14N15N AND 15N2 AS WELL AS FOR 14N16O, 15N16O AND 14N18O BETWEEN THEIR MELTING AND BOILING POINTS.
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*LIQUID, *NITROGEN, *ISOTOPE, OXIDE OF NITROGEN, *VAPOR PRESSURE, *TRIPLE POINT, *BOILING TEMPERATURE, *METHANE, *OXYGEN, *CARBON MONOXIDE, *INORGANIC FLUID
- 18512 EQUATION OF STATE FOR STOICHIOMETRIC NITROGEN-HYDROGEN MIXTURE.
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*GASEOUS MIXTURE, *HYDROGEN, *NITROGEN, *PVT DATA, *EQUATION OF STATE, *BINARY SYSTEM
- 18513 EQUATION OF STATE AND THERMODYNAMIC PROPERTY OF METHANE.
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- 18526 DIE INVERSIONSKURVE DES DIFFERENTIALEN THOMSON-JOULE-EFFEKTES DER GASE. THE INVERSION CURVE OF THE DIFFERENTIAL JOULE-THOMSON EFFECT IN GASES.
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*CARBON DIOXIDE, *ETHYLENE, *OXYGEN, *AIR, *NITROGEN, *HYDROGEN, *GASEOUS, *JOULE-THOMSON COEFFICIENT, INVERSION CURVE
- 18567 A COMPARISON OF TWO MELTING-PRESSURE EQUATIONS CONSTRAINED TO THE TRIPLE POINT USING DATA FOR ELEVEN GASES AND THREE METALS.
GOLCHIN, R.C., WEBER, L.A.
NATL. BUR. STANDARDS TECH. NOTE NO. 103 (OCT 1963) 23 PP 4 FIG 7 TAB 31 REF
*MELTING CURVE, EQUATION, *SOLIDIFIED GAS, *HYDROGEN, *DEUTERIUM, *TRITIUM, *NEON, *ARGON, KRYPTON, XENON, *NITROGEN, *OXYGEN, *CARBON DIOXIDE, *RARE GAS
- 18582 THE USE OF REGENERATORS IN LOW-TEMPERATURE ENGINEERING, PARTICULARLY FOR CONCENTRATING ETHYLENE FROM COKE-OVEN GAS.
BECKER, RUDOLF
LINDE REPTS. ON SCI. TECHNOL., NO. 1, 25-33 (1961) 6 FIG 1 TAB 1
*VAPOR PRESSURE, *HYDROGEN, *LIQUID, *NITROGEN, *CARBON MONOXIDE, *METHANE, *ACETYLENE, *ETHANE, *ETHYLENE, *CARBON DIOXIDE, *ORGANIC FLUID
- 18598 PROPAGATION OF ULTRASONIC WAVES IN COMPRESSED NITROGEN.
GLINSKII, A.A.
PRIPHEENIC UL' TRAAKUSTIKI K ISSLED. VESHCHISTVA, 131-38 (1962)
CA 59 3334H
*NITROGEN, *GASEOUS, *VELOCITY OF SOUND, *ARGON, PRESSURE EFFECT
- 18605 ESTIMATION OF ENTHALPIES, MULTICOMPONENT HYDROCARBON MIXTURES AT THEIR SATURATED VAPOR AND LIQUID STATES.
STEVENS, W.F., THODOS, G.
A.I.Ch.E. JOURNAL VOL. 9, 293-96 (1963)
*HYDROCARBON, *LIQUID, *METHANE, *ETHANE, *PROPANE, *BUTANE, *GASEOUS, *ENTHALPY, *GASEOUS MIXTURE, *LIQUID MIXTURE, SATURATED LIQUID, SATURATED VAPOR, *BINARY SYSTEM, *TERNARY SYSTEM
- 18672 THE INTERATOMIC POTENTIAL CURVE AND THE EQUATION OF STATE FOR ARGON.
RICE, O.K.
J. AM. CHEM. SOC. VOL. 63, 3-11 (JAN 1941) 4 FIG 3 TAB 22 REF
*ARGON, *SOLIDIFIED GAS, INTERMOLECULAR FORCE, CALCULATION, *HEAT OF SUBLIMATION, CENYE CONSTANT, *EQUATION OF STATE
- 18704 THEORETICAL CALCULATIONS ON SOLID ARGON.
DOPB, C., ZUCKER, I.J.
NATURE VOL. 178, 484 (SEPT 1956) 6 REF
*ARGON, *SOLIDIFIED GAS, *EXPANSIVITY, THERMAL EXPANSION, GRUNEISEN PARAMETER, INTERMOLECULAR FORCE, CALCULATION
- 18705 CALCULATIONS OF SOLID-STATE DATA OF NEON, AND THE VAPOR PRESSURE RATIO OF ITS ISOTOPES.
JOHNS, T.F.
PHIL. MAG. VOL. 3, 229-26 (1958) 3 FIG 1 TAB 7 REF
*NEON, *ISOTOPE, *SOLIDIFIED GAS, *VAPOR PRESSURE, *EQUATION OF STATE, *FREE ENERGY, CALCULATION

- 18706 EINE NEUE THERMISCHE ZUSTANDSGLEICHUNG DER STICKE FÜR IHREN GAS- UND FLÜSSIGKEITZUSTAND. A NEW THERMAL EQUATION OF STATE OF MATTER IN ITS GAS AND LIQUID STATE.
HIPPAN, JOSEPH
MONATSH. CHEM. VOL. 85, 936-40 (1954) 5 FIG 2 TAB 20 REF
A3 B3 C3 D3 E3 F7 G1 54
*EQUATION OF STATE, *LIQUID, *GASEOUS, *NITROGEN, *SPECIFIC HEAT, INVERSION CURVE
- 18719 ABOUT THE DENSITY OF CARBON DIOXIDE IN SOLID AND LIQUID CONDITION.
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ANN. PHYSIK VOL. 3, 733-43 (1900) (ABSTR. IN TECH. TRANS. VOL. 10, NO. 7, 779, OCT 1963) (TRANS. AVAIL. SLA NO. 63-16498, 81-10)
A3 B1 C3 D E F7 G1 63
*CARBON DIOXIDE, *SOLIDIFIED GAS, *DENSITY, *LIQUID, *VAPOR PRESSURE
- 18736 ULTRASONIC THERMOMETER FOR LOW TEMPERATURE DETERMINATIONS.
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*HELIUM, *GASEOUS, *VELOCITY OF SOUND
- 18746 RELATION OF THE VAPOR PRESSURES IN THE SYSTEMS C12H4/C13H4/C12H3D, N14C/N15H14O, S0162/S0182, AND AR36/AR40.
CLUSIUS, KLAUS
J. CHEM. PHYS. VOL. 60, 66-69 (1963)
CA 59 2180H A3 B2 C8 D C1 F7 G1 63
*METHANE, *DEUTERO METHANE, *DEUTERO-COMPOUND, *OXIDE OF NITROGEN, *ARGON, *SULFUR DIOXIDE, *VAPOR PRESSURE, *INORGANIC FLUID, *LIQUID, *ISOTOPE
- 18750 THE DENSITY AND MISCIBILITY OF LIQUEFIED HYDROCARBON GASES AT LOW TEMPERATURES.
MORLEY, J.
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CA 59 2161D A3 B2 C7 D E1 F7 G1 63
*LIQUID, *METHANE, *ETHANE, *PROPANE, *DENSITY, *BUTANE, *LIQUID, *METHANE, *ETHANE, *PROPANE, *GASEOUS, *SOLUTION, *SOLUBILITY
- 18831 NOMOGRAMS FOR CALCULATION OF FREON VISCOSITY.
NIKUL'SHIN, R.K. ZAINULINA, N.S.
TR. ODESSK. TEKHNOL. INST. PISHCHEVOI I KHOLODIL'N. PROM. VOL. 10, 125-30 (1961)
CA 59 4564C A3 B7 C8 D E2 F7 G1 61
*FREON, *VISCOSITY, *GASEOUS, *LIQUID, *REFRIGERANT, *NOMOGRAM
- 18832 THERMAL CONDUCTIVITY OF SATURATED HYDROCARBONS AT VARIOUS TEMPERATURES AND HIGH PRESSURES.
NAZIEV, Y.A.M. GOLUBEV, I.F.
IZV. AKAD. NAUK AZERB. SSR, SER. FIZ.-MATH. I TEKHN. NAUK, VOL. 19, NO. 6, 113-18 (1962)
CA 59 4573D A3 B7 C8 D E3 F7 G1 62
*THERMAL CONDUCTIVITY, *HYDROCARBON, *METHANE, *GASEOUS, *ETHANE, *LAW OF CORRESPONDING STATES, *PROPANE, *BUTANE
- 18837 KRITIK DER ELEKTRISCHEN DIFFERENTIALMETHODE ZUR MESSUNG VON CV AN GASEN. IV. MESSUNGEN. DIE NÄHERUNG MIT ARGON. CRITICISM OF THE ELECTRICAL DIFFERENTIAL METHOD OF MEASURING CV WITH GASES. IV. MEASUREMENTS. THE STANDARDIZATION WITH ARGON.
TRAUTZ, M. KAUFMAN, F.
ANN. PHYSIK VOL. 5, 581-605 (1930) 1 FIG 7 TAB 15 REF
A3 B3 C8 D1 E1 F7 G1 30
*AIR, *ARGON, *METHANE, *HYDROGEN, *CARBON DIOXIDE, *INORGANIC FLUID, *SULFUR DIOXIDE, *GASEOUS, *SPECIFIC HEAT
- 18838 KRITIK DER ELEKTRISCHEN DIFFERENTIALMETHODE ZUR MESSUNG VON CV AN GASEN. CRITIQUE OF THE ELECTRICAL DIFFERENTIAL METHOD FOR MEASURING CV IN GASES.
TRAUTZ, M. TRAUTZ, O.
ANN. PHYSIK VOL. 86, NO. 9, 1-65 (1928) 10 FIG 2 TAB 19 REF
A3 B3 C8 D1 E1 F7 G1 28
*AIR, *NITROGEN, *OXYGEN, *CARBON DIOXIDE, *HYDROGEN, *METHANE, *ORGANIC FLUID, *BENZENE, *ETHYL ACETATE, *ACETONE, *ARGON, *GASEOUS, *SPECIFIC HEAT
- 18839 THE SECOND VIRIAL COEFFICIENT FOR GASES. A CRITICAL COMPARISON BETWEEN THEORETICAL AND EXPERIMENTAL RESULTS.
MARGENAU, HENRY
PHYS. REV. VOL. 36, 1782-90 (DEC 1930) 9 FIG 2 TAB 16 REF
A3 B1 C8 D3 E3 F6 G1 30
*NEON, *ARGON, *HELIUM, *NITROGEN, *HYDROGEN, *OXYGEN, *CARBON DIOXIDE, *AMMONIA, *GASEOUS, *EQUATION OF STATE, *SECOND VIRIAL COEFFICIENT, *EQUATION, *WATER
- 18840 MELTING POINT OF CRYSTALLINE ARGON.
HENKEL, J.H.
BULL. AM. PHYS. SOC. VOL. 1, 258 (1956)
A3 B1 C7 D2 E2 F6 G1 56
*ARGON, *LIQUID, *EQUATION OF STATE, *MELTING POINT, *FREE ENERGY
- 18841 VISCOSITY AND SELF-DIFFUSION IN LIQUIDS.
MCLAUGHLIN, E.
TRANS. FARADAY SOC. VOL. 55, 28-38 (1959) 2 FIG 3 TAB 38 REF
A3 B1 C7 D1 E3 F7 G1 59
*ARGON, *NITROGEN, *CARBON MONOXIDE, *METHANE, *ORGANIC FLUID, *BENZENE, *INORGANIC FLUID, *CARBON TETRACHLORIDE, *LIQUID, *VISCOSITY, *TRANSPORT PROPERTY, *SELF-DIFFUSION, *DIFFUSION COEFFICIENT, *EQUATION
- 18842 THERMAL CONDUCTIVITY OF SIMPLE MOLECULES IN THE CONDENSED STATE.
HORROCKS, J.K. MCLAUGHLIN, E.
TRANS. FARADAY SOC. VOL. 56, 206-12 (1960) 1 FIG 1 TAB 21 REF
A3 B1 C7 D1 E3 F7 G1 60
*ARGON, *NITROGEN, *CARBON MONOXIDE, *METHANE, *ORGANIC FLUID, *BENZENE, *CARBON TETRACHLORIDE, *INORGANIC FLUID, *LIQUID, *THERMAL CONDUCTIVITY, *EQUATION, *CALCULATION
- 18843 DIE MESSUNG DER WÄRMEELEITUNG IN GASEN. MEASUREMENT OF THE HEAT CONDUCTIVITY OF GASES.
TRAUTZ, M. ZUNDEL, A.
ANN. PHYSIK VOL. 17, NO. 4, 345-75 (JUN 1933) 1 FIG 17 TAB 45 REF
A3 B3 C8 D1 E1 F7 G1 33
*AIR, *CARBON DIOXIDE, *CARBON MONOXIDE, *METHANE, *HYDROGEN, *OXYGEN, *PROPANE, *ARGON, *GASEOUS, *THERMAL CONDUCTIVITY
- 18844 THE SPECIFIC HEAT OF LIQUID HELIUM FROM 1.5 DEGREES K DOWN TO 0.4 DEGREES K.
KEESOM, W.H. WESTMIJZE, W.K.
PHYSICA VOL. 9, NO. 9, 1044 (NOV 1941)
A3 B1 C4 D3 E1 F6 G1 41
*HELIUM, *LIQUID, *SATURATED LIQUID, *SPECIFIC HEAT, *TEMPERATURE EFFECT, *EQUATION
- 18845 THE MOLECULAR THEORY OF SURFACE ENERGY. THE SURFACE ENERGY OF THE LIQUEFIED INERT GASES.
BRACELEY, R.S.
PHIL. MAG. VOL. 11, 846-49 (1931) 8 REF
A3 B1 C5 D1 E3 F6 G1 31
*ARGON, *HELIUM, *LIQUID, *SURFACE TENSION, *SURFACE ENERGY, *CALCULATION, *EQUATION
- 18846 DIE ÜBERFÜHRUNG DES ARGONS IN DEN FLÜSSIGEN UND FESTEN ZUSTAND. THE CONVERSION OF ARGON IN THE LIQUID AND SOLID STATE.
Z. PHYSIK. CHEM. VOL. 16, 380-84 (1895) 3 TAB
A3 B3 C7 D1 E1 F7 G1 95
*ARGON, *CRITICAL CONSTANTS, *LIQUID, *VAPOR PRESSURE, *BOILING TEMPERATURE, *MELTING TEMPERATURE
- 18847 DIE ÜBERFÜHRUNG DES ARGONS IN DEN FLÜSSIGEN UND FESTEN ZUSTAND. THE CONVERSION OF ARGON IN THE LIQUID AND SOLID STATE.
Z. PHYSIK. CHEM. VOL. 16, 380-84 (1895) 3 TAB
A3 B3 C7 D1 E1 F7 G1 95
*ARGON, *CRITICAL CONSTANTS, *LIQUID, *VAPOR PRESSURE, *BOILING TEMPERATURE, *MELTING TEMPERATURE
- 18848 NOTE ON VAPOR PRESSURES OF MONATOMIC SUBSTANCES.
EGERTON, A.C.
PHIL. MAG. VOL. 48, 1048-54 (1924) 3 TAB
A3 B1 C7 D1 E3 F6 G1 24
*ARGON, *SOLIDIFIED GAS, *VAPOR PRESSURE, *EQUATION, *CALCULATION, *TEMPERATURE EFFECT
- 18851 A CORRESPONDING STATES TREATMENT OF THE SPEED OF SOUND IN SIMPLE LIQUIDS.
HAPPANA, S.G.
AUSTRALIAN J. CHEM. VOL. 13, 325-31 (1960) 1 FIG 2 TAB 23 REF
A3 B1 C1 D1 E3 F7 G1 60
*ARGON, *NITROGEN, *OXYGEN, *METHANE, *HELIUM, *HYDROGEN, *INORGANIC FLUID, *CARBON TETRACHLORIDE, *LIQUID, *VELOCITY OF SOUND, *REDUCED VARIABLE, *LAW OF CORRESPONDING STATES, *INTERMOLECULAR FORCE
- 18852 THE EQUATION OF STATE OF SOLIDS AT LOW TEMPERATURE.
BERNARDES, N. SWENSON, C.A.
IOWA STATE UNIV., INST. FOR ATOMIC RES., AMES, REPT. NO. 15-359 (OCT 1961) 64 PP 81 REF (TITLE IN U.S. GOV. RES. REPTS. VOL. 38, NO. 10, 5-28, MAY 1963)
A3 B1 C1 D3 E2 F8 G5 63
*EQUATION OF STATE, *SOLIDIFIED GAS, *XENON, *ARGON, *NEON, *ZERO POINT ENERGY, *RARE GAS, *LITHIUM, *SODIUM, *POTASSIUM, *RUBIDIUM, *CESIUM, *ZERO POINT ENERGY
- 18917 INFLUENCE OF MOLECULAR QUADRUPOLE MOMENTS ON THE SECOND VIRIAL COEFFICIENT.
ONCLT, R.H.
J. CHEM. PHYS. VOL. 39, NO. 3, 605-28 (1963)
CA 59 4559H A3 B1 C8 D E3 F6 G1 63
*EQUATION OF STATE, *VIRIAL COEFFICIENT, *GASEOUS, *SECOND VIRIAL COEFFICIENT, *VISCOSITY, *ETHYLENE, *HYDROGEN, *NITROGEN, *CARBON MONOXIDE, *CARBON DIOXIDE, *INTERMOLECULAR FORCE, *QUADRUPOLE MOMENT
- 18918 VAPOR PRESSURE OF A MONATOMIC CRYSTAL.
SALTER, L.S.
TRANS. FARADAY SOC. VOL. 59, 657-66 (1963)
CA 59 4561C A3 B1 C7 D E3 F7 G1 63
*VAPOR PRESSURE, *ARGON, *KRYPTON, *RARE GAS, *SOLIDIFIED GAS, *ZERO POINT ENERGY
- 18920 CALCULATIONS OF LIQUID-FREON VISCOSITY.
NIKUL'SHIN, R.K. ZAINULINA, N.S.
TR. ODESSK. TEKHNOL. INST. PISHCHEVOI I KHOLODIL'N. PROM. VOL. 11, 108-18 (1962)
CA 59 4564A A3 B7 C8 D E1 F7 G1 62
*REFRIGERANT, *FREON, *LIQUID, *VISCOSITY
- 18921 DETERMINATION OF THE VISCOSITY OF FREON VAPORS.
NIKUL'SHIN, R.K. ZAINULINA, N.S.
TR. ODESSK. TEKHNOL. INST. PISHCHEVOI I KHOLODIL'N. PROM. VOL. 11, 91-107 (1962)
CA 59 4564H A3 B7 C8 D E1 F7 G1 62
*REFRIGERANT, *GASEOUS, *VISCOSITY, *FREON, *SATURATED VAPOR
- 18924 THERMAL CONDUCTIVITY OF LIQUID CARBON DIOXIDE ALONG THE SATURATION CURVE INCLUDING THE CRITICAL STATE.
AMIRKHANOV, KH. ADAMOV, A.P. LEVINA, L.N.
TEPLO I MASSOPREDEL, PEROVE VSES. SOVESHCH., MINSK VOL. 1, 105-08 (1961)
CA 59 4573A A3 B7 C8 D E1 F7 G1 61
*CARBON DIOXIDE, *LIQUID, *SATURATED LIQUID, *THERMAL CONDUCTIVITY, *CRITICAL REGION
- 18947 ON THE MEASUREMENT OF VERY LOW TEMPERATURES. XIII. DETERMINATIONS WITH THE HYDROGEN THERMOMETER.
ONNES, H.K. BRAAK, C.
COMMUN. PHYS. LAB. UNIV. LEIDEN NO. 95E (1906) 1 FIG 2 TAB 1 REF (TRANS. FROM, VERSLAG, GEWONE VERGADER, AFDEL. NATUURK. KONINKL. NED. AKAD. WETENSCHAP., 349-63, OCT 1906)
A3 B1 C6 D1 E1 F7 G1 66
*HYDROGEN, *LIQUID, *VAPOR PRESSURE, *MELTING POINT
- 18948 ON THE ANOMALY IN THE SPECIFIC HEAT OF LIQUID HELIUM.
KEESOM, W.H. KEESOM, A.F.
COMMUN. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 221D, 19-26 (1932) 3 FIG 2 TAB 4 REF (REPR. FROM, KONINKL. NED. AKAD. WETENSCHAP., PROC. VOL. 35, 736, 1932)
A3 B1 C5 D1 E1 F7 G1 32
*HELIUM, *HELIUM 4, *LIQUID, *SPECIFIC HEAT, *SATURATED LIQUID, *ANOMALY, *TEMPERATURE EFFECT, *LAMDA TEMPERATURE

- 18949 RESEARCHES ON THE JOULE-KELVIN EFFECT, ESPECIALLY AT LOW TEMPERATURES. I. CALCULATIONS FOR HYDROGEN. DALTON, J.P. COMMUN. PHYS. LAB. UNIV. LEIDEN NO. 109A (1909) 3 FIG 2 TAB 23 REF (TRANS. FROM. VERLAG. GEWONE VERGADER. AFDEL. NATUURK. KONINKL. AKADE. WETENSCHAP., 1907-07, MAR 1907) A3 B1 C2 D1 E1 F7 G1 G9
*HYDROGEN, *GASEOUS, *JOULE-THOMSON EFFECT, *PRESSURE EFFECT
- 18951 THE VISCOSITY OF LIQUEFIED GASES. IX. PRELIMINARY DETERMINATION OF THE VISCOSITY OF LIQUID HYDROGEN. VERSCHAFFELT, J.E. NICAISE, CH. COMMUN. PHYS. LAB. UNIV. LEIDEN NO. 151G, 67-71 (1917) 4 REF (TRANS. FROM. VERLAG. GEWONE VERGADER. AFDEL. NATUURK. KONINKL. AKADE. WETENSCHAP VOL. 25, 1224-28, FEB 1917) A3 B1 C6 D1 E1 F7 G1 17
*HYDROGEN, *LIQUID, *VISCOSITY
- 18978 EQUATION OF STATE PREDICTION OF THERMODYNAMIC PROPERTIES OF CARBON DIOXIDE. MARTIN, J.J. J. CHEM. ENG. DATA VOL. 8, NO. 3, 311-14 (JUL 1963) 2 FIG 1 TAB 10 REF A3 B1 C2 D1 E3 F6 G1 63
*CARBON DIOXIDE, *CRITICAL REGION, *EQUATION OF STATE, *DENSITY, *ENTHALPY, *ENTROPY, *GASEOUS, *PRESSURE EFFECT
- 18979 EQUATIONS OF STATE AND COMPRESSIBILITIES FOR GASEOUS CARBON DIOXIDE IN THE RANGE 0 DEGREES TO 600 DEGREES C AND 0 TO 150 ATMOSPHERES. VAN HUFF, N.E. HOUGHTON, G. COULL, J. J. CHEM. ENG. DATA VOL. 8, NO. 3, 336-40 (JUL 1963) 1 FIG 1 TAB 17 REF A3 B1 C2 D1 E3 F6 G1 63
*CARBON DIOXIDE, *GASEOUS, *EQUATION OF STATE, *COMPRESSIBILITY FACTOR, *PVT DATA
- 18980 HEAT OF SUBLIMATION OF MOLECULAR CRYSTALS. A CATALOG OF MOLECULAR STRUCTURE INCREMENTS. BOND, A. J. CHEM. ENG. DATA VOL. 8, NO. 3, 371-81 (JUL 1963) 26 TAB 53 REF A3 B1 C7 D1 E2 F6 G1 63
*ORGANIC FLUID, *HEAT OF SUBLIMATION, *METHANE, *ETHANE, *PROPANE, *MELTING TEMPERATURE, *HYDROCARBON, *PARAFFIN CLASS
- 18994 THE VISCOSITY OF ARGON-HELIUM MIXTURES. IWASAKI, H. KESTIN, J. BRUNN UNIV., PROVIDENCE, R.I. REPT. NO. BRN-4-P (APR 1963) CONTR. NO. NMR-3623(CO) 53 PP 13 REF A3 B1 C2 D1 E1 F3 G5 63
*GASEOUS MIXTURE, *ARGON, *HELIUM, *VISCOSITY, *BINARY SYSTEM
- 18995 THE VISCOSITY OF CARBON DIOXIDE IN THE NEIGHBORHOOD OF THE CRITICAL POINT. KESTIN, J. WHITELAND, J.P. ZIEM, I.F. BRUNN UNIV., PROVIDENCE, R.I., REPT. NO. BRN-5-P (APR 1963) CONTR. NO. ACNR 3623(CO) 46 PP 15 REF A3 B1 C2 D1 E1 F3 G5 63
*GASEOUS, *CARBON DIOXIDE, *VISCOSITY, *CRITICAL REGION
- 19072 THE VISCOSITY OF LIQUID HELIUM II BETWEEN 0.75 DEGREES K AND THE LAMBDA POINT. MOGGS, A.D.B. HOLLIS MALLETT, A.C. CAN. J. PHYS. VOL. 41, 596-609 (1963) A3 B1 C4 D1 E1 F7 G1 63
*HELIUM, *HELIUM II, *LIQUID, *VISCOSITY, *TEMPERATURE EFFECT
- 19117 LIQUID HELIUM II. OSBORN, D.V. (UNIV. ST. ANDREW'S, SCOT.) EXPERIMENTAL CRYOPHYSICS, 310-27 (HOARE, F.E., JACKSON, L.C., KURTJ, N. EDS.) BUTTERWORTHS, LONDON (1961) CA 59 11968F A3 B1 C4 D3 E2 F7 G2 61
*HELIUM, *HELIUM II, *LIQUID, *SPECIFIC HEAT, *DENSITY, *VISCOSITY, *VELOCITY OF SOUND, *PHYSICAL PROPERTY, *SOUND ABSORPTION, *SATURATED LIQUID, *TEMPERATURE EFFECT, *REVIEW, *LAMBDA TRANSITION
- 19119 SUPERCOMPRESSIBILITY FACTORS FOR HELIUM-NITROGEN MIXTURES. MILLER, J.E. STROUD, L. (U.S. BUR. OF MINES, AMARILLO, TEX.) U.S. BUR. MINES, REPT. INVEST. NO. VOL. 6192, (1963) 242 PP CA 58 11971E A3 B1 C2 D1 E1 F8 G6 63
*HELIUM, *NITROGEN, *GASEOUS MIXTURE, *BINARY SYSTEM, *PVT DATA, *COMPRESSIBILITY FACTOR, *CONCENTRATION EFFECT
- 19121 VAPOR PRESSURES OF ISOTOPIC MOLECULES. BIGEISEN, JACOB (BROCKHAVEN NATL. LAB., UPTON, N.Y.) J. CHIM. PHYS. VOL. 60, NO. 1-2, 35-43 (1963) CA 58 11972E A3 B1 C6 D1 E1 F7 G1 63
*NEON, *LIQUID, *ISOTOPE, *VAPOR PRESSURE, *VAPOR PRESSURE RATIO
- 19124 JOULE-THOMSON COEFFICIENTS FOR ETHANE. TSATURYANTS, A.B. HAFECOVA, R. EIVAZOVA, R.G. DOKL. AKADE. NAUK AZERB. SSR VOL. 18, NO. 11, 23-28 (1962) CA 58 12016H A3 B7 C2 D1 E1 F7 G1 62
*ETHANE, *GASEOUS, *JOULE-THOMSON COEFFICIENTS, *TEMPERATURE EFFECT, *PRESSURE EFFECT
- 19168 MEASUREMENT OF THE LATTICE CONSTANTS OF NEON ISOTYPES IN THE TEMPERATURE RANGE 4-24 DEGREES K. BOLZ, L.H. MAUER, F.A. (NBS, WASHINGTON, D.C.) ADVANCES IN X-RAY ANALYSIS VOL. 6, 242-49 (PRCC. 11TH CONF. ON APPLICATION OF X-RAY ANALYSIS, 1962) PLENUM PRESS, N.Y. (1963) 3 FIG 2 TAB 10 REF A3 B1 C5 D1 E1 F6 G2 62
*NEON, *SOLIDIFIED GAS, *LATTICE PARAMETER, *ISOTOPE, *EXPANSIVITY, *THERMAL EXPANSION, *DENSITY, *DIFFRACTION, *X-RAY
- 19175 PARTITION FUNCTIONS FOR NORMAL LIQUIDS AND MOLTEN SALTS. BLOPGREN, G.E. (UNION CARBIDE CORP., CLEVELAND, OHIO) ANN. N. Y. AKADE. SCI. VOL. 79, ART. 11, 781-85 (1960) 4 FIG 2 TAB 19 REF MF NO. 197-0 A3 B1 C7 D3 E3 F6 G1 60
*ARGON, *METHANE, *NITROGEN, *LIQUID, *VISCOSITY, *CALCULATION, *PARTITION FUNCTION, *TEMPERATURE EFFECT
- 19176 EXPERIMENTAL INVESTIGATION OF THE THERMAL CONDUCTIVITY OF ARGON. TSEDERBERG, N.V. POPOV, V.N. MOROZOVA, N.A. TEPLONERGETIKA VOL. 7, NO. 6, 82-86 (1960) 5 FIG 5 TAB MF NO. 197-M A3 B7 C7 D1 E1 F7 G1 60
*ARGON, *GASEOUS, *THERMAL CONDUCTIVITY, *PRESSURE EFFECT
- 19179 HEAT CONDUCTIVITY AND CHEMICAL REACTIONS IN GASES. PRIGOGINE, I. MAELORACE, F. PRCC. CONF. THERMODYN. TRANSPORT PROPERTIES FLUIDS, LONDON, 1957, 128-32 (1958) 3 FIG 8 REF MF NO. 197-J A3 B1 C2 D3 E1 F7 G2 58
*HELIUM, *ARGON, *HYDROGEN, *OXYGEN, *GASEOUS, *THERMAL CONDUCTIVITY, *PRESSURE EFFECT
- 19180 VISCOSITY OF LIQUID NE II. TOUCH, J.T. MCCORMICK, W.D. DASH, J.G. (UNIV. OF WASHINGTON, EATLE) PHYS. REV. VOL. 132, NO. 6, 2373-78 (DEC 1963) 6 FIG 2 TAB 23 REF A3 B1 C5 D1 E1 F6 G1 63
*HELIUM, *HELIUM-4, *HELIUM II, *LIQUID, *VISCOSITY, *TEMPERATURE EFFECT, *DENSITY
- 19184 SUR LA DENSITE DE L'AIR ATMOSPHERIQUE LIQUIDE ET DE SES COMPOSANTS, ET SUR LE VOLUME ATOMIQUE DE L'OXYGENE ET DE L'AZOTE. THE DENSITY OF LIQUID ATMOSPHERIC AIR AND ITS COMPONENTS, AND THE ATOMIC VOLUME OF OXYGEN AND NITROGEN. WRONLEWSKI, S. COMPT. REND. VOL. 102, 1010-12 (1886) 1 TAB A3 B2 C7 D1 E1 F7 G1 86
*OXYGEN, *LIQUID, *SATURATED LIQUID, *DENSITY, *AIR, *NITROGEN, *LIQUID, *VAPOR PRESSURE, *DENSITY, *SATURATED LIQUID
- 19185 SUR LA TEMPERATURE D'EBULLITION DE L'OXYGENE, DE L'AIR, DE L'AZOTE ET DE L'OXYDE DE CARBONE SOUS LA PRESSION ATMOSPHERIQUE. THE BOILING TEMPERATURE OF OXYGEN, AIR, NITROGEN AND CARBON MONOXIDE AT ATMOSPHERIC PRESSURE. WRONLEWSKI, S. COMPT. REND. VOL. 98, 582-85 (1884) 1 TAB A3 B2 C7 D1 E1 F7 G1 84
*OXYGEN, *LIQUID, *BOILING TEMPERATURE, *VAPOR PRESSURE, *CRITICAL CONSTANT, *AIR, *NITROGEN, *CARBON MONOXIDE, *LIQUID, *BOILING TEMPERATURE
- 19186 FURTHER EXPERIMENTS WITH LIQUID HELIUM. 88. PRELIMINARY DETERMINATIONS OF THE SPECIFIC HEAT OF LIQUID HELIUM. DANA, L.L. CANES, P.K. PRCC. ACAC. SCI. AMSTERDAM VOL. 29, 1C61-68 (1926) 1 FIG 2 TAB 3 RI (REPR. FROM COMMUN. PHYS. LAB. LEIDEN NO. 175D) MF NO. 197-M A3 B1 C5 D1 E1 F6 G1 26
*HELIUM, *LIQUID, *SATURATED LIQUID, *SPECIFIC HEAT, *TEMPERATURE EFFECT, *PVT DATA, *TSAI, D.H. EDS.) ACACEMIC PRESS, N.Y. (1962) MF NO. 197-I A3 B1 C6 D1 E3 F6 G2 62
*ARGON, *LIQUID, *SPECIFIC HEAT, *VISCOSITY, *TRIPLE POINT, *BOILING POINT, *CRITICAL CONSTANTS, *HEAT OF FUSION, *HEAT OF VAPORIZATION, *LIQUID, *DENSITY, *NEON, *ARGON, *RARE GAS, *KRYPTON, *XENON, *HEAT OF SUBLIMATION, *CHLORINE, *TRIPLE POINT, *BOILING TEMPERATURE, *CRITICAL CONSTANTS, *HEAT OF FUSION, *HEAT OF VAPORIZATION, *LIQUID, *DENSITY, *HEAT OF SUBLIMATION, *PARAHYDROGEN, *HYDROGEN, *HYDROGEN DEUTERIDE, *DEUTERIUM, *ORTHODEUTERIUM, *VAPOR PRESSURE
- 19205 SOUND ABSORPTION AND VELOCITY MEASUREMENTS IN OXYGEN. SHIELDS, F.D. LEE, K.P. MISSISSIPPI UNIV., OXFORD, TECH. REPT. (OCT 1962) CONTR. NO. NMR-3078(OC) 4 PP 2 FIG 7 REF A3 B1 C2 D3 E1 F5 G5 62
*OXYGEN, *GASEOUS, *VELOCITY OF SOUND, *ARGON, *SOUND ABSORPTION, *PHYSICAL PROPERTY
- 19278 THE DIPOLE MOMENTS AND STRUCTURES OF OZONE, SILICOBROMOFORM AND DICHLORODIFLUOROMETHANE. LEWIS, G.L. SMYTH, C.P. (PRINCETON UNIV.) J. AM. CHEM. SOC. VOL. 61, 3063-66 (1939) 2 TAB 10 REF A3 B1 C7 D1 E1 F6 G1 39
*OXYGEN, *OZONE, *LIQUID MIXTURE, *BINARY SYSTEM, *DIELECTRIC CONSTANT, *DENSITY
- 19280 MEASUREMENTS ON THE VISCOSITY OF NEON, HYDROGEN, DEUTERIUM AND HELIUM AS A FUNCTION OF THE TEMPERATURE, BETWEEN ROOM TEMPERATURE AND LIQUID HYDROGEN TEMPERATURES. VAN IJSTERWEEK, A. VAN PAEDEL, O. (NATUURKUNDE LAB., LEUVEN, BELGIUM) PHYSICA VOL. 7, NO. 3, 265-72 (MAR 1940) 2 FIG 7 TAB 8 REF A3 B1 C6 D1 E1 F6 G1 40
*NEON, *HYDROGEN, *DEUTERIUM, *HELIUM, *GASEOUS, *VISCOSITY, *TEMPERATURE EFFECT, *ARGON
- 19286 THE SUTHERLAND VISCOSITY CONSTANT AND ITS RELATION TO THE MOLECULAR POLARIZATION. KEYSER, G. (MIT, CAMBRIDGE) PHYSIK. CHEM. (LEIPZIG) VOL. 129, 709-14 (1927) 3 FIG 9 REF MF NO. 198-M A3 B1 C8 D3 E2 F7 G1 27
*HELIUM, *ARGON, *NEON, *RARE GAS, *KRYPTON, *XENON, *CARBON MONOXIDE, *NITROGEN, *OXYGEN, *METHANE, *HYDROGEN, *GASEOUS, *VISCOSITY, *SUTHERLAND CONSTANT
- 19287 LA TENSION DE VAPEUR ET LA CHALEUR DE VAPORISATION AUX BASSES TEMPERATURES. VAPOR TENSION AND HEAT OF VAPORIZATION AT LOW TEMPERATURES. VERSCHAFFELT, J.E. ARCH. NEERLAND. SCI. IIIA VOL. 8, 109-35 (1924) 1 FIG 3 TAB 20 REF MF NO. 198-C A3 B2 C5 D1 E2 F7 G1 24
*VAPOR PRESSURE, *HEAT OF VAPORIZATION, *WATER, *ARGON, *HYDROGEN, *SOLIDIFIED GAS, *HEAT OF SUBLIMATION, *SPECIFIC HEAT, *VAPOR PRESSURE, *LIQUID, *HEAT OF VAPORIZATION, *HELIUM
- 19289 THE VELOCITY OF SOUND AT REDUCED PRESSURES. SMITH, P.W.JR. J. ACOUST. SOC. AM. VOL. 23, NO. 6, 715 (NOV 1951) 1 FIG 3 REF A3 B1 C8 D1 E2 F6 G1 51
*AIR, *NITROGEN, *OXYGEN, *CARBON DIOXIDE, *METHANE, *GASEOUS, *VELOCITY OF SOUND, *PRESSURE EFFECT
- 19294 ISOTHERMS OF METHANE AT PRESSURES FROM 34 ATMOSPHERES TO 258 ATMOSPHERES AND TEMPERATURES FROM 0 DEGREES C TO 150 DEGREES C. ALTMAN, ALBERT MARYLAND UNIV., COLLEGE PARK, MASTER THESIS (1958) 51 PP 7 FIG 6 TAB 18 REF MF NO. 200-L A3 B1 C8 D1 E1 F9 G7 58
*METHANE, *GASEOUS, *PVT DATA, *COMPRESSIBILITY FACTOR, *ISOTHERM, *DENSITY, *VIRIAL COEFFICIENT, *SECOND VIRIAL COEFFICIENT, *THIRD VIRIAL COEFFICIENT
- 19297 DETERMINATION DU COEFFICIENT DE VISCOSITE DE L'AZOTE COMPRESSE JUSQU'A 5000 BARS. DETERMINATION OF THE VISCOSITY OF NITROGEN COMPRESSED TO 5000 BARS. VERPESSE, J. JOHANNIN, F. VODAR, B. COMPT. REND. VOL. 256, 3016-19 (1963) 2 FIG 2 TAB 6 REF CA 59 1117E A3 B2 C8 D1 E1 F7 G1 63
*NITROGEN, *GASEOUS, *VISCOSITY, *HIGH PRESSURE, *PRESSURE EFFECT

- 19301 KRITIK DER ELEKTRISCHEN DIFFERENTIALMETHODE ZUR MESSUNG VON CV AN GASEN. VI. DIE SPEZIFISCHE WÄRME VON ARGON UND LUFT. CRITICISM OF THE ELECTRICAL DIFFERENTIAL METHOD OF MEASURING CV OF GASES. VI. THE SPECIFIC HEATS OF ARGON AND AIR. TRAUTZ, MAX. REICHEL, A. (PHYSIKALISCH-CHEMISCHES INSTITUT DER UNIVERSITÄT HEIDELBERG) ANN. PHYSIK VOL. 22, NO. 6, 513-24 (APR 1935) 3 FIG 6 TAB 19 REF. A3 B3 C2 D1 E1 F7 G1 35
*ARGON, *AIR, *GASEOUS, *SPECIFIC HEAT, *SCHEMRE
- 19306 THE VELOCITY OF SOUND IN AIR, NITROGEN AND ARGON. SMITH, D.H. HARLOW, R.G. (WOOLWICH POLYTECHNIC, LONDON) BRIT. J. APPL. PHYS. VOL. 14, NO. 2, 102-06 (1963) 6 FIG 3 TAB 14 1 CNRS 24-3-10485 A3 B1 C2 D1 E1 F7 G1 63
*VELOCITY OF SOUND, *AIR, *NITROGEN, *ARGON, *GASEOUS, SOUND ABSORPTION, *PHYSICAL PROPERTY, FREQUENCY EFFECT
- 19308 QUANTUM-MECHANICAL CALCULATION OF THE THIRD VIRIAL COEFFICIENT OF HE4. LARSEN, S.Y. (NBS, WASHINGTON, D.C.) PHYS. REV. VOL. 130, 1426-40 (1963) 7 FIG 6 TAB 26 REF. CA 58 13156M A3 B1 C2 D1 E3 F6 G1 63
*HELIUM, *HELIUM-4, *GASEOUS, *EQUATION OF STATE, SECOND VIRIAL COEFFICIENT, THIRD VIRIAL COEFFICIENT, CALCULATION, QUANTUM EFFECT
- 19325 KINETIC THEORY OF DENSE FLUIDS. XIV. EXPERIMENTAL AND THEORETICAL STUDIES OF THERMAL CONDUCTIVITY IN LIQUID AR, KR, Xe, AND CH4. IKENBERRY, L.D. RICE, S.A. J. CHEM. PHYS. VOL. 39, NO. 6, 1561-71 (1963) CA 59 8136B A3 B1 C7 D E1 F6 G1 63
*THERMAL CONDUCTIVITY, *METHANE, *ARGON, *KRYPTON, *XENON, *RARE GAS, *LIQUID, *TRANSPORT PROPERTY, SELF DIFFUSION
- 19373 DIFFERENCE IN THE PRESSURE OF THE SATURATED VAPOR OF THE ISOTOPES OF KRYPTON AND XENON. GRIGOR'EV, V.N. ZHUR, FIZ. KHIM. VOL. 36, 1779-81 (1962) 2 TAB 10 REF. A3 B7 C7 D1 E1 F7 G1 62
*RARE GAS, *XENON, *KRYPTON, *ISOTOPE, *BOILING TEMPERATURE, *VAPOR PRESSURE, DEBYE CONSTANT, SATURATED LIQUID, *LIQUID, VAPOR PRESSURE RATIO
- 19410 NEW GENERAL FORMULA FOR VAPOR PRESSURE APPLICABLE TO LIQUIDS OF VARIOUS COMPOSITION. MEL'NICHENKO, N.I. (AUTOMECH. INST., MOSCOW) INZ.-FIZ. AKAD. NAUK BELORUS. SSR VOL. 6, NO. 7, 50-53 (1963) CA 59 10770C A3 B7 C1 D1 E3 F7 G1 63
*VAPOR PRESSURE, *LIQUID, *HYDROGEN, *METHANE, *OXYGEN, *HELIUM, *CARBON DIOXIDE, *AMMONIA, *ORGANIC FLUID
- 19414 GAS-LIQUID CRITICAL TEMPERATURES OF BINARY MIXTURES. II. JONES, T.W. ROWLINS, J.S. (IMP. COLL. SCI. TECHNOL., LONDON) TRANS. FARADAY SOC. VOL. 59, NO. 488, 1762-08 (1963) CA 59 10810E A3 B1 C1 D E F7 G1 63
*GASEOUS MIXTURE, *BINARY SYSTEM, *CRITICAL CONSTANT, *ARGON, *NITROGEN, *OXYGEN, *CARBON MONOXIDE, *METHANE, CRITICAL TEMPERATURE
- 19443 SUR LA TENSION SUPERFICIELLE ET LE MODELE CELLULAIRE DE L'ETAT LIQUIDE. SURFACE TENSION AND THE CELL MODEL OF THE LIQUID STATE. PRIGOGINE, I. SARAGA, L. (UNIVERSITE LIBRE DE BRUXELLES, LAB. DE CHIM. PHYS., UNIVERSITE DE PARIS) J. CHIM. PHYS. VOL. 49, 399-407 (1952) 8 FIG 3 TAB 11 REF. A3 B2 C7 D1 E2 F7 G1 52
*LIQUID, *SURFACE TENSION, *ARGON, *NITROGEN, *OXYGEN, *NEON, *ORGANIC FLUID, METHYL CHLORIDE, BENZENE, CHLORINE, CARBON TETRACHLORIDE, SURFACE ENERGY, CALCULATION, *INORGANIC FLUID
- 19445 DIE ZWEITEN VIRIALKOEFFIZIENTEN VON ARGON, KRYPTON, XENON, STICKSTOFF UND KÖHLENSTOFF IM TEMPERATURBEREICH VON 0 BIS 1200 DEGREES C. SECOND VIRIAL COEFFICIENTS OF ARGON, KRYPTON, XENON, NITROGEN, CO2 IN THE 0 DEGREE TO 1200 DEGREES C TEMPERATURE RANGE. THOMPSON, W. Z. PHYSIK VOL. 147, 92-58 (1957) 5 TAB 31 REF. A3 B3 C2 D1 E3 F7 G1 57
*ARGON, *NITROGEN, *CARBON DIOXIDE, *RARE GAS, *KRYPTON, *XENON, *GASEOUS, INTERMOLECULAR FORCE, LENNARD-JONES FUNCTION, *EQUATION OF STATE, SECOND VIRIAL COEFFICIENT
- 19446 EQUATION OF STATE AND THERMAL CONDUCTIVITY OF GASES AT HIGH PRESSURES AND ELEVATED TEMPERATURES. SAUREL, J. BERGON, R. JOHANVIN, P. DAPIGNY, J. KIEFFER, J. VODAR, B. (LAB. DES HAUTES PRESSIONS, MELLEVILLE, FRANCE) DISCUSSIONS FARADAY SOC., NO. 22, 64-69 (1956) 4 FIG 2 TAB 17 REF. A3 B1 C2 D1 E1 F7 G1 56
*ARGON, *EQUATION OF STATE, *GASEOUS, HIGH PRESSURE, THIRD VIRIAL COEFFICIENT
- 19448 VORRICHTUNGEN ZUR FESTSTELLUNG DER SCHMELZKURVEN NIEDRIGSIEDENDER STOFFE. APPARATUS FOR DETERMINING THE FUSION CURVES OF LOW-BOILING SUBSTANCES. SCHMOLKE WAPPE VOL. 34, NO. 6 57-98 (1931) 2 TAB 4 REF. A3 B3 C2 D1 E2 F7 G1 31
*MELTING CURVE, EQUATION, *HELIUM, *HYDROGEN, *NEON, *NITROGEN, *ARGON
- 19479 THE VISCOSITY OF ARGON-AMMONIA MIXTURES. IWASAKI, H. KESTIN, J. NAGASHIMA, N. BROWN UNIV., PROVIDENCE, R.I., REPT. NO. BRN-4-P (JUN 1963) CONTR. NO. 3623(100), 29 PP-6 REF (PROJ. SCUD) A3 B1 C2 D1 E1 F3 G5 63
*GASEOUS MIXTURE, *VISCOSITY, *AMMONIA, *ARGON
- 19480 THE THERMAL CONDUCTIVITY OF NITROGEN AND ARGON. VINES, R.G. KEYSER, F.G. MASS. INST. TECHNOL., CAMBRIDGE, PROJ. SOLID, REPT. NO. MIT-34-P (JUL 1963) CONTR. NO. 3623(100), 25 PP-18 REF. A3 B1 C2 D1 E2 F3 G5 63
*THERMAL CONDUCTIVITY, *GASEOUS, *NITROGEN, *ARGON, PRESSURE EFFECT
- 19613 THE P-V-T BEHAVIOR OF HYDROGEN-METHANE AND HYDROGEN-ETHANE MIXTURES. SOLERIG, C.W. ELLINGTON, R.T. CHEM. ENG. PROG. SYMP. SER. VOL. 39, NO. 44, 127-36 (1963) CA 59 5791C A3 B1 C2 D1 E1 F6 G1 63
*GASEOUS MIXTURE, *PVT DATA, *EQUATION OF STATE, COMPRESSIBILITY FACTOR, *METHANE, *HYDROGEN, SECOND VIRIAL COEFFICIENT, *BINARY SYSTEM, *LIQUID
- 19617 A SEMIEMPIRICAL FORMULA FOR THE VISCOSITY OF MULTICOMPONENT GAS MIXTURES. SAXENA, S.C. GAMBHIR, R.S. INDIAN J. PURE APPL. PHYS. VOL. 1, NO. 6, 208-15 (1963) CA 59 5795H A3 B1 C2 D1 E1 F6 G1 63
*VISCOSITY, *GASEOUS MIXTURE, *HELIUM, *NEON, *ARGON, *NITROGEN, *OXYGEN, *CARBON DIOXIDE, *HYDROGEN, *METHANE, *CARBON MONOXIDE, *BINARY SYSTEM
- 19636 MOLLIER CHART FOR NITROGEN. LING, G.S. (CALIFORNIA RES. CORP., RICHMOND) CHEM. ENG. PROG. VOL. 59, NO. 11, 70-71 (NOV 1963) 1 FIG 2 TAB 1 A3 B1 C7 D3 E2 F6 G1 63
*NITROGEN, *ENTHALPY, PRESSURE-ENTHALPY DIAGRAM, *GASEOUS, *LIQUID
- 19645 THE VELOCITY OF SOUND IN LIQUID NORMAL AND PARA HYDROGEN AS A FUNCTION OF PRESSURE. VAN ITTERBECK, A. VAN DAEL, W. COPS, A. PHYSICA VOL. 29, NO. 9, 965-73 (SEPT 1963) 5 FIG 7 TAB 9 REF. A3 B1 C2 D1 E1 F6 G1 63
*HYDROGEN, NORMAL HYDROGEN, *PARAHYDROGEN, *LIQUID, *VELOCITY OF SOUND, *DENSITY, *COMPRESSIBILITY, SPECIFIC HEAT RATIO, CALCULATION
- 19652 RESEARCH ON RHEOLOGIC AND THERMODYNAMIC PROPERTIES OF SOLID AND SLUSH HYDROGEN. OWEN, R.F. COOK, G.A. LINDE CO. ICNANANCA, N.Y., QUART. REPT. NO. 2 (DEC 1963) CONTR. NO. AF 33(657)-11098, 32 PP 7 FIG 8 TAB 22 REF. A3 B1 C2 D1 E2 F8 G5 63
*NORMAL HYDROGEN, LIQUID, *GASEOUS, *SOLUTION, SOLUBILITY, *HELIUM, *PARAHYDROGEN, *LIQUID, *DENSITY, *HEAT OF FUSION, *MELTING CURVE, *HYDROGEN, NORMAL HYDROGEN, *DENSITY, *SOLIDIFIED GAS, *MELTING CURVE, *PHASE DIAGRAM
- 19659 SOME REMARKS ON EXPERIMENTS IN THE DENSE STATE. NICHOLS, A. (VAN DER WAALS LAB., GEOMETRIE UNIV., AMSTERDAM) NUCVO CEMENTIC SUPPL. VOL. 9, NO. 1, 157-62 (1958) 15 FIG 1 A3 B1 C2 D3 E2 F7 G1 58
*NITROGEN, *ARGON, *GASEOUS, *THERMAL CONDUCTIVITY, *VISCOSITY, PRESSURE EFFECT, DENSITY
- 19665 NOTE ON THE PRESSURE VARIATION OF SPECIFIC HEATS OF GASES DERIVED FROM COMPRESSIBILITY DATA. MORTON, L.G. (UNIV. VIRGINIA) PHYS. REV. VOL. 36, 1091-95 (SEPT 1930) 1 TAB 8 REF. A3 B1 C2 D1 E3 F6 G1 30
*OXYGEN, *GASEOUS, *SPECIFIC HEAT, PRESSURE EFFECT, CALCULATION
- 19666 A NEW METHOD OF MEASURING THE VARIATION OF THE SPECIFIC HEATS (CP) OF GASES WITH PRESSURE. MORKHAN, E.J. (UNIV. VIRGINIA) PHYS. REV. VOL. 36, 1082-90 (SEPT 1930) 3 FIG 1 TAB 8 REF. A3 B1 C2 D1 E1 F6 G1 30
*OXYGEN, *GASEOUS, *SPECIFIC HEAT, PRESSURE EFFECT
- 19687 ELECTRICAL INSULATION AT CRYOGENIC TEMPERATURES. MATTHEWS, K.N. ELECTRO-TECHNOL. NEW YORK VOL. 72, NO. 3, 72-77 (SEPT 1963) 8 FIG 4 TAB 9 REF. A2 B1 C5 D1 E2 F6 G1 63
*ELECTRICAL PROPERTY, DIELECTRIC BREAKDOWN, *PLASTIC, VINYL, POLYESTER, *NYLON, *TEFLON, ASBESTOS, GLASS FIBER, FLUOROCARBON, TITANATE, POLYETHYLENE, A3 B1 C2 D1 E2
*HYDROGEN, *NITROGEN, *HELIUM, *LIQUID, *ELECTRICAL PROPERTY, DIELECTRIC BREAKDOWN, A3 B1 C2 D1 E2
*HYDROGEN, *GASEOUS, *ELECTRICAL PROPERTY, DIELECTRIC BREAKDOWN, *THERMAL EXPANSION
- 19693 JOULE-THOMSON EFFECT IN HELIUM AT LOW TEMPERATURES. ZEILMANOV, J.L. J. PHYS. U.S.S.R. VOL. 3, 43-52 (1940) 11 FIG 5 TAB 5 REF. A3 B1 C5 D1 E1 F6 G1 40
*HELIUM, *GASEOUS, *JULE-THOMSON COEFFICIENT, INVERSION CURVE
- 19694 CRYOGENIC PUMPING. MEAULT, P.B. FENNEPA, P.J. BUFFHAM, B.A. J. ENVIRONMENTAL SCI. VOL. 6, NO. 4, 15-20 (AUG 1963) 5 FIG 2 TAB 10 REF. A6 B1 C5 D1 E2 F6 G1 63
*CRYOPUMPING, STICKING COEFFICIENT, A3 B1 C1 D1 E2
*VAPOR PRESSURE, *SOLIDIFIED GAS, *HYDROGEN, *NEON, *NITROGEN, *CARBON MONOXIDE, *OXYGEN, *METHANE, *CARBON DIOXIDE, *WATER
- 19697 A QUANTUM HARD-SPHERE EQUATION OF STATE. MILLER, J. WALKLEY, J. TRANS. FARADAY SOC. VOL. 59, NO. 485, 1093-1100 (1963) 4 FIG 12 REF. A3 B1 C2 D3 E3 F7 G1 63
*EQUATION OF STATE, QUANTUM EFFECT, *GASEOUS, *HYDROGEN, *DEUTERIUM, COMPRESSIBILITY FACTOR, NEON, ARGON
- 19700 MEASUREMENTS OF VISCOSITY OF KRYPTON. CLIFTON, D.G. J. CHEM. PHYS. VOL. 38, NO. 5, 1123-31 (MAR 1963) 4 FIG 7 TAB 37 REF. A3 B1 C2 D1 E1 F6 G1 63
*KRYPTON, *GASEOUS, *VISCOSITY, *THERMAL CONDUCTIVITY, CALCULATION, *EQUATION, TEMPERATURE EFFECT, *TRANSPORT PROPERTY, THERMAL DIFFUSION, SECOND VIRIAL COEFFICIENT, LATTICE PARAMETER, *HEAT OF SUBLIMATION
- 19703 THE EQUATION OF STATE AND THERMODYNAMIC PROPERTIES OF OXYGEN. KISSEL, H.A. INZ. FIZ. ZHURN. VOL. 4, 61-67 (JUN 1963) 2 TAB 10 REF. A3 B7 C7 D1 E3 F7 G1 63
*OXYGEN, *GASEOUS, *PVT DATA, COMPRESSIBILITY FACTOR, *EQUATION OF STATE, CALCULATION

- 19704 SURFACE TENSION OF LIQUIDS.
HARASIMA, A.
PRCC. PHYS.-MATH. SOC. JAPAN VOL. 23, NO. 12, 583-51 (1941) 23 TAB
MF NO. 196-L A3 B1 C5 D1 E3 F7 G1 41
*SURFACE TENSION, *SURFACE ENERGY, *LIQUID, *HELIUM, *HYDROGEN,
*DEUTERIUM, *NEON, *NITROGEN, *ARGON, *EQUATION OF STATE, *CALCULATION
- 19705 CONCERNING THE EQUATION OF STATE OF HELIUM.
PREVDITSEV, A. S.
INZ. FIZ. ZHURN. VOL. 6, 54-60 (JUN 1963) 3 FIG 3 TAB 2 REF
MF NO. 198-J A3 B7 C8 D1 E3 F7 G1 63
*HELIUM, *GASEOUS, *EQUATION OF STATE, *VIRIAL COEFFICIENT, *PVT
DATA, *CALCULATION
- 19708 UBER DIE VERDAMPFUNGSWARME VON SALERSTOFF UND SCHWEFELDIOXYD. ON
THE HEATS OF VAPORIZATION OF OXYGEN AND SULFUR DIOXIDE.
ESTREICHEN, P. T.
BULL. INTERN. ACAD. SCI. CRACOVIE, CLASSE SCI. MATH. MET., NO. 3,
183-96 (1904) 2 FIG 16 REF
MF NO. 194-Y A3 B3 C7 D1 E1 F7 G1 64
*OXYGEN, *INORGANIC FLUID, *SULFUR DIOXIDE, *LIQUID, *HEAT OF
VAPORIZATION
- 19709 LENNARD-JONES AND DEVONSHIRE EQUATION OF STATE OF COMPRESSED
GASES AND LIQUIDS.
MENDERS, R. J. R., BUEHLER, R. J., HIRSCHFELDER, J. D., CURTISS, C. F.,
J. CHEM. PHYS. VOL. 18, NO. 11, 1484-1500 (NOV 1950) 7 FIG 23 TAB
18 REF
CA 45 3672G MF NO. 196-N A3 B1 C1 D1 E3 F6 G1 50
*EQUATION OF STATE, *LENNARD-JONES FUNCTION, *GASEOUS, *HYDROGEN,
*NITROGEN, *HELIUM, *NEON, *ARGON, *INTERNAL ENERGY, *SPECIFIC
HEAT, *GAS IMPERFECTION, *ENTROPY, *COMPRESSIBILITY FACTOR, *FREE
ENERGY
- 19711 COMPRESSIBILITY OF HELIUM-NITROGEN MIXTURES.
MILLER, J. L., STROUD, L. W., BRANDT, L. W.
J. CHEM. ENG. DATA VOL. 5, NO. 1, 6-9 (JAN 1960) 3 FIG 1 TAB 10 RE
MF NO. 195-E A3 B1 C8 D1 E1 F6 G1 60
*HELIUM, *NITROGEN, *GASEOUS MIXTURE, *BINARY SYSTEM, *PVT DATA,
*CONCENTRATION EFFECT, *GASEOUS
- 19721 TIEFTEMPERATURZERLEGUNG KOHLENWASSERSTOFFREICHER GASE ZUR
GEWINNUNG VON ETHYLEN UND PROPYLEN. THE SEPARATION OF ETHYLENE
AND PROPYLENE FROM HYDROCARBON-GAS-MIXTURES AT LOW TEMPERATURES.
BALBUS, H., LINDG, G.
KALTECHNIK VOL. 19, NO. 6, 159-66 (JUN 1963) 9 FIG 4 TAB 16 REF
MF NO. 194-R A6 B3 C1 D1 E1 F7 G1 63
*SEPARATION, *ETHYLENE, *PROPYLENE,
A3 B3 C1 D1 E1
*VAPOR PRESSURE, *LIQUID, *HYDROGEN, *CARBON MONOXIDE, *METHANE,
*ETHYLENE, *PROPYLENE, *ETHANE, *PROPANE, *HYDROCARBON
- 19728 EXPERIMENTAL ENTHALPIES FOR NITROGEN.
MAGE, D. I., JONES, M. L. J., KATZ, G. L., ROEBUCK, J. R.
CHEM. ENG. PROG. SER. VOL. 59, NO. 44, 61-65 (1963) 4 FIG
CA 59 4597G MF NO. 194-N A3 B1 C7 D1 E1 F6 G1 63
*NITROGEN, *GASEOUS, *SPECIFIC HEAT, *HEAT OF VAPORIZATION,
*ENTHALPY, *PRESSURE-ENTHALPY DIAGRAM, *SATURATED VAPOR, *SATURATED
LIQUID
- 19774 ACOUSTIC ISOTHERMS FOR NITROGEN, ARGON, AND KRYPTON.
LESTZ, S. S. (UNIV. WISCONSIN, MADISON)
J. CHEM. PHYS. VOL. 38, 2830-34 (1963) 3 FIG 7 TAB 2 REF
CA 59 1115C MF NO. 201-A A3 B1 C8 D1 E1 F6 G1 63
*GASEOUS, *NITROGEN, *ARGON, *KRYPTON, *VELOCITY OF SOUND, *ISOTHERM,
*SPECIFIC HEAT
- 19776 EXPERIMENTAL EVIDENCE OF A MINIMUM IN THE MELTING CURVE OF H₂.
WIEBES, J., KRAMERS, P. C. (KAMERLINGH ONNES LAB., LEIDEN,
NETHERLANDS)
PHYS. LETTERS VOL. 4, 298-99 (1963) 1 FIG 4 REF
CA 59 4561G MF NO. 200-S A3 B1 C4 D1 E1 F7 G1 63
*HELIUM, *HELIUM 4, *MELTING CURVE, *SOLIDIFIED GAS
- 19792 SURFACE TENSION OF LIQUID HELIUM.
ATKINS, K. R., NARAHARA, Y. (UNIV. PENN., PHILADELPHIA)
PRCC. INTERNA. CONF. LOW TEMP. PHYS., 7TH TORONTO, CAN.,
1960, 549-51 (1961) 1 FIG 5 REF
MF NO. 201-I A3 B1 C4 D3 E1 F6 G2 61
*HELIUM, *HELIUM 4, *LIQUID, *SURFACE TENSION
- 19801 RADIAL DISTRIBUTION FUNCTIONS AND THE EQUATION OF STATE OF
MONATOMIC FLUIDS.
ZWARZIG, R. W., KIRKWOOD, J. G., STRIPP, K. F., COPENHAGEN, I.
(YALE UNIV., NEW HAVEN, CONN.)
J. CHEM. PHYS. VOL. 21, NO. 7, 1268-71 (1953) 7 TAB 7 REF
MF NO. 201-Z A3 B1 C1 D1 E3 F6 G1 53
*EQUATION OF STATE, *ARGON, *CRITICAL CONSTANT, *HEATING
TO CRITICAL POINT, *GASEOUS, *EXCESS PROPERTY, *INTERNAL ENERGY,
*COMPRESSIBILITY, *DISTRIBUTION FUNCTION
- 19895 I. THE SECOND VIRIAL COEFFICIENT OF ARGON AT LOW TEMPERATURES
AND LOW PRESSURES. II. THE HEAT CAPACITY OF LIQUID NITRIC OXIDE
ABOVE ITS NORMAL MELTING POINT.
KERR, E. C.
OHIO STATE UNIV., COLUMBUS, PH.D. THESIS (1957) 8C PP 9 FIG
10 TAB 39 REF (AVAIL. UNIV. MICROFILMS, ANN ARBOR, MICH.,
PUBL. NO. 2148C, \$2.75)
CA 51 14353C MF NO. 204-C A3 B1 C7 D1 E1 F7 G7 57
*ARGON, *GASEOUS, *PVT DATA, *SECOND VIRIAL COEFFICIENT,
A3 B1 C7 D1 E1
*INORGANIC FLUID, *OXYDE OF NITROGEN, *LIQUID, *SPECIFIC HEAT,
*SATURATED LIQUID, *ENTROPY, *DENSITY, *VAPOR PRESSURE
- 19904 TEMPERATURE DEPENDENCE OF THE THERMAL CONDUCTIVITY OF LIQUIDS.
HORROCKS, J. K., MCLAUCHLIN, E. (IMP. COLL., LONDON)
TRANS. FARADAY SOC. VOL. 59, NO. 408, 1709-16 (1963)
CA 59 9344G A3 B1 C1 D1 E3 F7 G1 63
*THERMAL CONDUCTIVITY, *LIQUID, *CARBON MONOXIDE, *ARGON, *NITROGEN,
*METHANE, *TEMPERATURE EFFECT
- 19909 VIBRATIONAL RELAXATION IN OXYGEN.
MOLLES, R., SMITH, F. A. TEMPEST, H. (UNIV. LIVERPOOL, ENGL.)
PRCC. PHYS. SOC. (LONDON) VOL. 81, NO. 520, 311-19 (1963)
CA 59 9350B A3 B1 C2 D1 E1 F6 G1 63
*VELOCITY OF SOUND, *ARGON, *NITROGEN, *GASEOUS, *OXYGEN, *SOUND
ABSORPTION, *PHYSICAL PROPERTY
- 19965 LENNARD-JONES AND DEVONSHIRE EQUATION OF STATE AT LOW TEMPERATURES.
DAVID, H. G., HANNAH, S. C. (COMMONWEALTH SCI. IND. RES. ORGAN.,
MELBOURNE)
J. CHEM. PHYS. VOL. 38, 3037-39 (1963)
CA 59 13362F A3 B1 C4 D1 E3 F6 G1 63
*ARGON, *SOLIDIFIED GAS, *EQUATION OF STATE, *PVT DATA, *LENNARD-
JONES FUNCTION
- 19969 TEMPERATURE DEPENDENCE OF VISCOSITY OF N-ALKANES.
KARAPET'YANTS, M. K. M., YEN, K.-S. (C. I. MENDELEEV CHEM.-TECHNOL.
INST., MOSCOW)
ZH. FIZ. KHIM. VOL. 37, NO. 9, 2041-47 (1963)
CA 59 13369E A3 B7 C7 D3 E2 F7 G1 63
*METHANE, *ETHANE, *PROPANE, *BUTANE, *HYDROCARBON, *PENTANE,
*HEPTANE, *PARAFFIN CLASS, *LIQUID, *VISCOSITY, *TEMPERATURE EFFECT,
*EQUATION, *CALCULATION
- 19990 THE VISCOSITY OF HELIUM AND NEON AS A FUNCTION OF DENSITY AND
TEMPERATURE.
LEPAIRE, N. A.
BRUNN UNIV., PROVIDENCE, R.I. THESIS (1962) 151 PP (ABSTR. IN
DISSERTATION ABSTR. VOL. 23, 2716, 1963) (AVAIL. UNIV. MICROFILM,
ANN ARBOR, MICH. ORDER NO. 63-1041)
A3 B1 C8 D1 E1 F9 G7 62
*HELIUM, *NEON, *GASEOUS, *VISCOSITY, *PRESSURE EFFECT, *HIGH PRESSURE
ISOTHERM
- 20007 EQUATION OF STATE FOR DIFLUORODICHLOROMETHANE (FREON-12).
TSCIMAN, G. I.
INZ. FIZ. ZH., AKAD. NAUK BELORUS. SSR VOL. 6, NO. 7, 121-23 (1963)
CA 59 12263E A3 B7 C8 D1 E3 F7 G1 63
*REFRIGERANT, *FREON 12, *GASEOUS, *EQUATION OF STATE, *PVT DATA,
*FREON 13, *FREON 14
- 20010 TEMPERATURE DEPENDENCE OF THE VISCOSITY OF PURE LIQUIDS. II.
TR. ODESSK. GIDROMETEROL. INST. VOL. 1961, NO. 27, 53-57 (1961)
*VISCOSITY, *LIQUID, *EQUATION, *TEMPERATURE EFFECT, *ARGON,
*NITROGEN, *METHANE, *HYDROCARBON, *OXYGEN, *HYDROGEN, *CARBON
MONOXIDE
- 20011 DETERMINATION OF THE POTENTIAL PARAMETERS OF H₂, CO₂, AND H₂-CO₂
AND UNIV. PARIAE CURIE-SKLODOWSKA, LUBLIN-POLONIA, SECT. AA VOL.
1-27 (1959)
CA 59 12265D A3 B9 C8 D1 E2 F7 G1 59
*HYDROGEN, *CARBON DIOXIDE, *GASEOUS, *GASEOUS MIXTURE, *BINARY
SYSTEM, *VISCOSITY, *TEMPERATURE EFFECT, *INTERMOLECULAR FORCE,
*LENNARD-JONES FUNCTION, *THERMAL DIFFUSION
- 20034-See Appendix
- 20036 THE PHASE AND VOLUMETRIC BEHAVIOR OF NATURAL GASES AT LOW
TEMPERATURES AND HIGH PRESSURES.
DAVIS, P. C., HERTUZZI, A. F., CORE, T. L., KURATA, F.
J. PETROL. TECHNOL. VOL. 6, NO. 10, 37-43 (OCT 1954) 4 FIG 6 TAB
3L REF
MF NO. 202-F A3 B1 C8 D1 E1 F6 G1 54
*HYDROCARBON, *NATURAL GAS, *GASEOUS MIXTURE, *PVT DATA, *BUBBLE
POINT, *DEW POINT, *PHASE EQUILIBRIUM, *CRITICAL CONSTANTS,
*NITROGEN, *METHANE
- 20038 PROPERTIES OF MATERIALS AT HIGH PRESSURES AND TEMPERATURES.
BIRCH, F., ROBERTSON, E. C.
HARVARD UNIV., DUNBAR LAB., CAMBRIDGE, MASS., TECH. REPT.
1949 (1957) CONTR. NO. NSORI-07644, 36 PP 16 FIG 7 TAB 31 REF
DOC AD 128 707 A3 B1 C8 D1 E1 F5 G5 57
*ARGON, *NITROGEN, *SOLIDIFIED GAS, *MELTING CURVE, *EQUATION,
*CALCULATION, *VERY HIGH PRESSURE
- 20043 GRUNDLAGEN ZUR AUFSTELLUNG VON MOLLIERDIAGRAMMEN FÜR KALTEMITTEL.
FOUNDATIONS FOR THE PREPARATION OF MOLLIER DIAGRAMS FOR
REFRIGERANTS.
ROEBUSCH, U. K., MORSY, T. (KARLSRUHE)
CHEM. ING. TECH. VOL. 35, NO. 2, 127 (1963)
CHNS 24-3-1366B A3 B3 C8 D1 E2 F7 G1 63
*REFRIGERANT, *FREON, *GASEOUS, *LIQUID, *MOLLIER DIAGRAM,
*ENTHALPY
- 20045 THERMAL EXCITATIONS IN SOLID H₂.
GOLSTEIN, L. (LOS ALAMOS SCI. LAB., N. MEX.)
PHYS. REV. VOL. 128, NO. 4, 1520-30 (1962)
CHNS 24-3-13284 A3 B1 C5 D1 E1 F6 G1 62
*METHANE, *HELIUM 4, *SOLIDIFIED GAS, *EXPANSIVITY, *THERMAL
EXPANSION, *HELIUM 11, *MELTING CURVE, *SPECTRA
- 20134 METHANE-PROPANE-PENTANE SYSTEM. CRITICAL TEMPERATURES AND
PRESSURES OF TERNARY SYSTEMS FROM LIMITED DATA.
MORRIS, V. S., THODOS, G. (NORTHWESTERN UNIV., EVANSTON, ILL.)
J. CHEM. ENG. DATA VOL. 7, PT. 1, 497-98 (1962)
CA 58 3954F A3 B1 C2 D1 E1 F6 G1 62
*METHANE, *PROPANE, *PENTANE, *TERNARY SYSTEM, *CRITICAL
TEMPERATURE, *CRITICAL CONSTANT, *BINARY SYSTEM, *GASEOUS MIXTURE,
*LIQUID MIXTURE, *PTX DATA
- 2-135 THE PREDICTION OF VAPOR-LIQUID EQUILIBRIUM CONSTANTS OF BINARY
HYDROCARBON SYSTEMS IN THE CRITICAL REGION.
MORRIS, V. S., THODOS, G. (NORTHWESTERN UNIV., EVANSTON, ILL.)
A.I. CH. E. JOURNAL VOL. 8, 604-07 (1962)
CA 58 3956B A3 B1 C7 D1 E3 F6 G1 62
*CRITICAL CONSTANT, *LIQUID MIXTURE, *GASEOUS MIXTURE, *NITROGEN,
*OXYGEN, *PHASE EQUILIBRIUM, *LIQUID-VAPOR EQUILIBRIUM EQUILIBRIUM
CONSTANT
- 2-181 THEORY OF PHASE TRANSITIONS IN SOLIDS METHANE.
TAT, M. C., JAMES, P. P. (PURDUE UNIV., LAFAYETTE, IND.)
AM. PHYS. SOC. MEETING, WASHINGTON, D.C. (APR 23-26, 1962)
PAPER P10 (ABSTR. IN PULL. AM. PHYS. SOC. VOL. 7, NO. 4, 321,
1962)
CHNS 24-3-13270 A3 B1 C4 D1 E3 F6 G1 62
*METHANE, *SOLIDIFIED GAS, *PHASE TRANSITION PROPERTY, *SOLID-
SOLID TRANSITION, *THEORY
- 22247 MEASUREMENT OF THE THERMODYNAMIC PROPERTIES OF GASES AT LOW
TEMPERATURE AND HIGH PRESSURE-METHANE.
JONES, P. L. J., PAGE, C. T., FAULKNER, R. C. J., KATZ, D. L.
(UNIV. MICH., ANN ARBOR)
CHEM. ENG. PROG. SER. VOL. 59, NO. 44, 52-60 (1963) 10 FIG
3 TAB 11 REF
MF NO. 203-I A3 B1 C7 D1 E1 F6 G1 63
*METHANE, *GASEOUS, *LIQUID, *ENTHALPY, *PRESSURE ENTHALPY DIAGRAM,
*SPECIFIC HEAT, *HEAT OF VAPORIZATION, *PRESSURE EFFECT,
*TEMPERATURE EFFECT, *SATURATED LIQUID, *SATURATED VAPOR
- 2-248 COMPRESSION OF LIQUID HYDROGEN AUX IRES-HAUTES PRESSIONS PAR CHOCES DE
CHOC ENGLAISÉS DANS LE LIQUIDE. COMPRESSION OF HYDROGEN AT
VERY HIGH PRESSURES THROUGH THE PRODUCTION OF SHOCK WAVES WITHIN
THE LIQUID.
DAPCIN, J., KIEFFER, J., VOGAR, N. (ILAB, CES-HAUTES
PRESSIONS, BELLEVUE)
J. PHYS. MEDIUM VOL. 17, 606-07 (1956) 1 FIG 3 REF
MF NO. 203-V A3 B2 C7 D3 E1 F7 G1 56
*PVT DATA, *OXYGEN, *LIQUID, *SHOCK WAVE, *VERY HIGH-PRESSURE

- 20250 MESURE DE LA VITESSE DES ULTRASONS DANS LES FLUIDES SOUS PRESSION PAR LA METHODE DES IMPULSIONS. MEASUREMENT OF THE VELOCITY OF ULTRASONIC WAVES IN FLUIDS UNDER PRESSURE BY THE PULSE METHOD.
MARTIN, A.V.J. J. RECH. CENTRE NATL. RECH. SCI. LAP. BELLEVUE (PARIS) NO. 41, 251-72 (DEC 1957) 34 FIG 7 TAB 92 REF
PF NO. 203-2 A3 B2 C2 D1 E1 F7 G1 57
*ARGON, *GASEOUS, *VELOCITY OF SOUND, *DENSITY, PRESSURE EFFECT, HIGH PRESSURE, *NITROGEN, *WATER
- 20252 THE VELOCITY OF SOUND IN GASES.
ARNEY, R.L. BARLOW, G.E. (UNIV. OF MELBOURNE). AUSTRALIAN J. SCI. RES. VOL. A1, 175-89 (JUN 1948) 7 FIG 5 TAB 2 REF
PF NO. 203-5 A3 B1 C2 D1 E1 F7 G1 48
*AIR, *GASEOUS, *VELOCITY OF SOUND, *NITROGEN, *OXYGEN, *CARBON DIOXIDE, *METHANE, PRESSURE EFFECT
- 20267 EQUATION OF STATE FOR BINARY FLUID MIXTURES.
MCHT, C.E. (UNIV. WISCONSIN, MADISON) J. CHEM. PHYS. VOL. 38, NO. 4, 1008-18 (1963) 34 REF
CNRS 24-3-14692 A3 B1 C1 D1 E3 F6 G1 63
*GASEOUS MIXTURE, *BINARY SYSTEM, *PVT DATA, COMPRESSIBILITY FACTOR, *ETHANE, *HYDROCARBON, *CARBON MONOXIDE, *CARBON DIOXIDE, *NITROGEN, CALCULATION, *EQUATION OF STATE, *ETHANE
- 20268 PARTIAL ENTHALPIES OF COMPONENTS IN GAS MIXTURES VIA REDLICH-KWONG EQUATION OF STATE.
EDMISTER, W.C. THOMPSON, R.L. YARROWOLGH, L. (OKLAHOMA STATE UNIV., STILLWATER) A.I.Ch.E. JOURNAL VOL. 9, NO. 1, 116-20 (1963)
CNRS 24-NO-14693 A3 B1 C2 D1 E3 F6 G1 63
*GASEOUS MIXTURE, *BINARY SYSTEM, *EQUATION OF STATE, *ENTHALPY, *METHANE, *ETHANE, CALCULATION, *PROPANE, BUTANE, PENTANE
- 20285 THE THEORY OF PHASE TRANSITIONS IN SOLID HEAVY METHANE.
TAT, W.C. PURDUE UNIV., LAFAYETTE, INDIANA, THESIS (1962) 147 PP (ABST. IN DISSERTATION ABST. VOL. 23, 670, 1962) (AVAIL. UNIV. MICROFILMS, ANN ARBOR, MICH., ORDER NO. 62-34521)
CA 58 62660 A3 B1 C2 D1 E3 F9 G7 62
*METHANE, DEUTERIO-METHANE, *SOLIDIFIED GAS, *PHASE TRANSITION PROPERTY, SOLID-SOLID TRANSITION, THEORY, CALCULATION
- 20296 A MOLECULAR PARAMETER RELATIONSHIP BETWEEN SURFACE TENSION AND LIQUID COMPRESSIBILITY.
MAYER, S.W. (AEROSPACE CORP., EL SEGUNDO, CALIF.) J. PHYS. CHEM. VOL. 67, NO. 10, 2162-64 (1963) 6 TAB 11 REF
CA 59 12208F A3 B1 C7 D1 E3 F6 G1 63
*LIQUID, *SURFACE TENSION, *COMPRESSIBILITY, *EQUATION OF STATE, *CAYEN, *NITROGEN, *ARGON, *ORGANIC FLUID, *HYDROCARBON, *INORGANIC FLUID, WATER
- 20297 WEITERE VERSUCHE MIT PARAMETERISIERUNG. EXPERIMENTS ON PARAMYDROGEN.
BONHOEFFER, K.F. PARTECK, P. NATURWISSENSCHAFTEN VOL. 17, 321-22 (1929)
CA 23 5361 A3 B3 C2 D1 E1 F7 G1 29
*PARAMYDROGEN, *VAPOR PRESSURE, *LIQUID, *SOLID, TRIPLE POINT
- 20338 DIE WÄRMELEITFÄHIGKEIT VON FLÜSSIGKEITEN. HEAT CONDUCTIVITY OF LIQUIDS.
ROBINSON, L.A. KING, R.A. PETROL. REFINER VOL. 41, NO. 5, 133 (1962) KALTETCHNIK VOL. 15, NO. 4, 117-18 (1963) 4 FIG 1 TAB 4 REF
IR 12951 A3 B1 C4 D1 E3 F6 G1 62
*REFRIGERANT, FREON, *LIQUID, *THERMAL CONDUCTIVITY, CALCULATION
- 20342 THE VISCOSITY OF LIQUID HELIUM.
HOLLIS-WALLEY, A.C. TRANS. SOC. RHEOL. VOL. 6, 392 (1962)
IR 12963 A3 B1 C4 D1 E1 F7 G1 62
*HELIUM, *HELIUM II, *LIQUID, *VISCOSITY, TEMPERATURE EFFECT
- 20370 ERGEBNISSE DER TIEFTEMPORATURFORSCHUNG XL. DIE DAMPDROCKE VON 36AR UND 40AR ZWISCHEN SCHMELZ- UND SIEDEPUNKT. LOW-TEMPERATURE RESEARCH. XL. THE VAPOR PRESSURES OF AR36 AND AR40 BETWEEN THE MELTING AND BOILING POINTS.
ARAC, RHEINLA THE MELTING AND BOILING POINTS. CLUSIUS, K. SCHLEICH, K. VOGELHANN, M. (UNIV. ZÜRICH, SWITZ.) HELV. CHIM. ACTA VOL. 46, NO. 5, 1705-14 (1963) 3 FIG 5 TAB 22 REF
CA 59 14604C A3 B1 C7 D1 E1 F7 G1 63
*ARGON, *LIQUID, ISOTOPIC, *VAPOR PRESSURE, *TRIPLE POINT, MELTING TEMPERATURE, EQUATION, VAPOR PRESSURE RATIO, *BOILING POINT
- 20373 EFFICIENCY OF EQUATIONS OF STATE FOR GASEOUS MIXTURES AT THE CRITICAL LOCUS. I. APPLICATION OF THE EQUATION OF BENEDECT, WILCOX, AND RUBIN. II. FURTHER IMPROVEMENTS OF AN EQUATION OF STATE.
ACKERMAN, F.J. (UNIV. OF CALIFORNIA, BERKELEY) CALIF. UNIV. RADIATION LAB., BERKELEY, REPT. NO. UCRL-10656 (FEB 1963) CONTR. NO. 6-7405-ENG-48, 66 PP 33 FIG 3 TAB 59 REF
CA 59 12213D A4 B1 C2 D1 E3 F3 G5 63
FUGACITY, *EQUATION OF STATE, *HYDROCARBON, BENEDECT-WILCOX-RUBIN EQUATION, REDLICH-KWONG EQUATION, CRITICAL REGION, *INORGANIC FLUID, *GASEOUS MIXTURE
A3 B1 C2 D1 E3
*GASEOUS MIXTURE, *EQUATION OF STATE, *METHANE, *HYDROCARBON, CALCULATION
- 20384 METHOD OF DETERMINING SATURATED LIQUID AND SATURATED VAPOR ENTROPY.
WALKER, M.A. (AEROSPACE CORP., SACRAMENTO, CALIF.) AIAA JOURNAL VOL. 1, NO. 11, 2036-38 (NOV 1963) 16 FIG 3 REF
A3 B1 C7 D3 E3 F6 G1 63
*ENTROPY, *LIQUID, *GASEOUS, SATURATED LIQUID, SATURATED VAPOR, CALCULATION, T-S DIAGRAM, *OZONE, OXYGEN DIFFUSION, *OXYGEN
- 20389 THE VARIATION IN THE VISCOSITY OF CERTAIN MIXTURES OF GASES AND OXYGEN UNDER THE INFLUENCE OF A MAGNETIC FIELD.
URS, I. ACAD. REP. POLULARE REPTIVE STUDIUM CERTAIN FIZ. VOL. 9, NO. 2, 193-202 (1958)
PA 64 158 A3 B9 C2 D1 E1 F7 G1 58
*GASEOUS MIXTURE, *AIR, *OXYGEN, *BINARY SYSTEM, *HYDROGEN, *METHANE, *VISCOSITY, MAGNETIC FIELD
- 20390 XENON-KRYPTON, XENON-ARGON, XENON-NEON AND XENON-HELIUM VISCOSITY AND THERMAL CONDUCTIVITY OF BINARY GAS MIXTURES.
THOMSON, C. PRCC. PHYS. SOC. (LONDON) VOL. 76, PT. 1, 104-12 (JUL 1960) PA 64 159 A3 B1 C2 D1 E3 F6 G1 60
*BINARY SYSTEM, *GASEOUS MIXTURE, *VISCOSITY, *THERMAL CONDUCTIVITY, *XENON, *KRYPTON
A3 B1 C2 D1 E3
*BINARY SYSTEM, *GASEOUS MIXTURE, *VISCOSITY, *THERMAL CONDUCTIVITY, *XENON, *ARGON
A3 B1 C2 D1 E3
*BINARY SYSTEM, *GASEOUS MIXTURE, *VISCOSITY, *THERMAL CONDUCTIVITY, *XENON, *NEON
A3 B1 C2 D1 E3
*BINARY SYSTEM, *GASEOUS MIXTURE, *VISCOSITY, *THERMAL CONDUCTIVITY, *XENON, *HELIUM
- 20431 ATMOSPHERIC THERMAL CONDUCTIVITIES FOR GASES OF SIMPLE MOLECULAR STRUCTURE.
MUSIC, D. THODOS, G. (NORTHWESTERN UNIV., EVANSTON, ILL.) J. CHEM. ENG. DATA VOL. 8, NO. 4, 547-48 (OCT 1963) 2 FIG 96 REF
A3 B1 C1 D1 E3 F6 G1 63
*THERMAL CONDUCTIVITY, *GASEOUS, *REDUCED VARIABLE, LAW OF CORRESPONDING STATES, *XENON, *HELIUM, REVIEW, *ARGON, *KRYPTON, *XENON, *OXYGEN, *HYDROGEN, *NITROGEN, *CARBON MONOXIDE
A3 B1 C1 D1 E3
*THERMAL CONDUCTIVITY, *GASEOUS, *REDUCED VARIABLE, LAW OF CORRESPONDING STATES, OXIDE OF NITROGEN, *FLUORINE, *CARBON DIOXIDE, *AMMONIA, *METHANE
- 20432 THERMODYNAMIC FUNCTIONS OF METHANE.
MCCOY, K.S. KRUSE, F.H. (LOS ALAMOS SCIENTIFIC LAB., UNIV. OF CALIF., LOS ALAMOS, N.M.) J. CHEM. ENG. DATA VOL. 8, NO. 4, 547-48 (OCT 1963) 3 TAB 16 REF
A3 B1 C7 D1 E3 F6 G1 63
*METHANE, *GASEOUS, *SPECIFIC HEAT, *ENTHALPY, *FREE ENERGY, *ENTROPY, TEMPERATURE EFFECT, CALCULATION
- 20466 EXPERIMENTAL STUDY OF THERMAL PROPERTIES OF AN AZEOTROPIC MIXTURE OF FREON-124 AND FREON-C318.
PEREL'SHTEIN, I.I. INZh.-Fiz. Zh., AKAD. NAUK SSSR VOL. 5, NO. 12, 27-33 (1962)
CA 58 6256D A3 B7 C2 D1 E1 F7 G1 62
*LIQUID MIXTURE, *REFRIGERANT, FREON, *BINARY SYSTEM, VAPOR PRESSURE OF MIXTURE, *DENSITY, *BOILING POINT
- 20499 ISOTOPIC THERMAL-DIFFUSION FACTOR OF ARGON.
PAUL, R. HOWARD, A.J. WATSON, W.H. (YALE UNIV.) J. CHEM. PHYS. VOL. 35, NO. 11, 1053-56 (1963)
CA 59 14605C A3 B1 C7 D1 E3 F6 G1 63
*ARGON, *GASEOUS, *TRANSPORT PROPERTY, THERMAL DIFFUSION, DIFFUSION COEFFICIENT, SECOND VIRIAL COEFFICIENT
- 20547 SECOND AND THIRD VIRIAL COEFFICIENTS FOR HYDROGEN.
GOCHEM, K.D. DILLER, C.E. RÖDER, M.P. MENER, L.A. J. RES. NATL. BUREAU STANDARDS VOL. 68A, NO. 1, 121-26 (JAN-FEB 1964) 4 FIG 5 TAB 14 REF
A3 B1 C6 D1 E3 F6 G1 64
*PARAMYDROGEN, *GASEOUS, *EQUATION OF STATE, SECOND VIRIAL COEFFICIENT, THIRD VIRIAL COEFFICIENT
- 20590 COMPARISON OF DIFFUSER-EJECTOR PERFORMANCE WITH FIVE DIFFERENT DRIVING FLUIDS.
HALE, J.W. ARC, INC., ARNOLD AIR FORCE STA., TN., REPT. NO. AEDC-THR-63-207 (OCT 1963) CONTR. NO. AF 41(60C)-1CCO, 34 PP 11 FIG 2 TAB 25 REF
NASA 63 22996 A6 B1 C1 D1 E1 F3 G5 63
*FLUID FLOW, *AIR, *NITROGEN, *ARGON, *HELIUM, *HYDROGEN, NOZZLE, NOZZLE PARAMETER, EXPANSION, *SPECIFIC HEAT, *GASEOUS, *LIQUID, *SOLIDIFIED GAS, SATURATION CURVE
A3 B1 C1 D1 E1
*ARGON, *HYDROGEN, *HELIUM, *AIR, *NITROGEN, *SPECIFIC HEAT RATIO, EXPANSION, *LIQUID, *SOLIDIFIED GAS, SATURATION CURVE
- 20593 THERMAL CONDUCTIVITY OF SOLID ARGON.
BOTO, G. GENCA UNIV., ISTITUTO DI FISICA SPERIMENTALE, ITALY, QUART. STATUS REPT., NO. 1, (JUL 1963) CONTR. NO. DA-61-591-ENG-2861, E-302-P, 5 PP 1 FIG
NASA 63 2154 A3 B1 C5 D1 E1 F3 G5 63
*ARGON, *SOLIDIFIED GAS, *THERMAL CONDUCTIVITY, TEMPERATURE EFFECT
- 20594 THERMODYNAMIC PROPERTIES OF METHANE AT HIGH DENSITIES.
MAGDOSKY, W.P. NAVAL ORDNANCE LAB., WHITE OAK, MD., REPT. NO. ADLTR-63-101 (AUG 1963) CONTR. NO. 175K FR-27, 12 PP 7 TAB 8 REF
DOC AD 617 642 A3 B1 C2 D1 E3 F5 G6 63
*METHANE, *GASEOUS, *EQUATION OF STATE, *PVT DATA, *SPECIFIC HEAT, *VELOCITY OF SOUND, CALCULATION
- 20595 - See 1, 1964, 1.
- 20590 POTENTIAL CONSTANTS AND THERMODYNAMIC FUNCTIONS OF TETRAFLUOROMETHANE.
NAGARAJAN, G. (ANNAPALAI UNIV., INDIA) AUSTRALIAN J. CHEM. VOL. 15, 566-68 (1962)
CA 58 2965H A3 B1 C7 D1 E3 F7 G1 62
*INORGANIC FLUID, *ENTHALPY, *FREE ENERGY, *ENTROPY, *SPECIFIC HEAT, *GASEOUS, SPECTROSCOPIC DATA, CARBON TETRAFLUORIDE
- 20641 DIE WÄRMELEITFÄHIGKEITEN VON NORMAL-UND ORTHO-DEUTERIUM BEI TEMPERATUREN DES FLÜSSIGEN WASSERSTOFFES. THERMAL CONDUCTIVITY OF NORMAL AND ORTHO-DEUTERIUM AT LIQUID-HYDROGEN TEMPERATURES.
HEINZINGER, K. EICHENAUER, W. KLEMM, A. Z. NATURFORSCH. VOL. 18A, 762-64 (1963) 1 FIG 1 REF
CA 59 5891M PF NO. 203-5 A3 B3 C2 D3 E1 F7 G1 63
*DEUTERIUM, ORTHO-DEUTERIUM, *GASEOUS, *THERMAL CONDUCTIVITY, ORTHO-DEUTERIUM
- 20642 GENERALIZED THERMODYNAMIC PROPERTIES OF GASES AT HIGH PRESSURE.
MARCH, S.M. TURNHULL, C. IND. ENG. CHEM. VOL. 34, 544-51 (1942) 1 FIG 4 TAB 30-REF
PF NO. 204-5 A3 B1 C2 D1 E3 F6 G1 42
*EQUATION OF STATE, BEATTIE-BRIDGEMAN LAW OF CORRESPONDING STATES, *GASEOUS, *EQUATION, *NITROGEN, ACTIVITY COEFFICIENT, *REDUCED VARIABLE, *OXYGEN, *HYDROGEN, *METHANE, *CARBON DIOXIDE, COMPRESSIBILITY FACTOR

- 26643 EXPONENT ADIABATIC KYSLICHIKH UHLICITEPO. ADIABATIC EXPONENT OF CARBON DIOXIDE. SIMON, J. SOUR, J. JACMINA ENERGI VOL. 9, 162-65 (1963) 1 FIG 2 TAB 6 REF CA 59 10819A MF NO. 202-J A3 F9 C9 D1 E3 F7 G1 63
*CARBON DIOXIDE, SPECIFIC HEAT RATIO, *GASEOUS, CORRECTION
- 27645 SUR LA COMPRESSIBILITE A O DEGREE ET AU-DESSUS DE 1 ATM. (I) L'EQUATION A LA LOI D'AVOIGADRO DE PLUSIEURS GAZ. 1. OXYGENE, HYDROGENE ET AMMONIAC CARBONIQUE. ON THE COMPRESSIBILITY AT 0 DEGREE AND BELOW 1 ATM. AND THE DEVIATION FROM AVOGADRO'S LAW FOR SEVERAL GASES. 1. OXYGEN, HYDROGEN AND CARBON DIOXIDE. GUYE, P.A. BATESCAS, I. MELV. CHIM. ACTA VOL. 5, 532-43 (1922) 8 TAB 5 REF MF NO. 204-L A3 B2 C9 D1 E1 F7 G1 22
*OXYGEN, *HYDROGEN, *CARBON DIOXIDE, *PVT DATA, AVOGADRO'S LAW, ATOMIC WEIGHT, *MOLECULAR WEIGHT
- 2 646 SUR LA COMPRESSIBILITE A O DEGREE ET AU-DESSUS DE 1 ATMOSPHERE ET L'EQUATION A LA LOI D'AVOIGADRO DE PLUSIEURS GAZ. 1. OXYGENE, HYDROGENE ET AMMONIAC CARBONIQUE. ON THE COMPRESSIBILITY AT 0 DEGREE AND BELOW 1 ATM. AND THE DEVIATION FROM AVOGADRO'S LAW FOR SEVERAL GASES. 1. OXYGEN, HYDROGEN AND CARBON DIOXIDE. GUYE, P.A. BATESCAS, I. J. CHIM. PHYS. VOL. 20, 308-36 (1923) 4 FIG 8 TAB 19 REF MF NO. 205-C A3 B2 C9 D1 E1 F7 G1 23
*PVT DATA, *GASEOUS, *OXYGEN, *HYDROGEN, *CARBON DIOXIDE, AVOGADRO'S LAW, ATOMIC WEIGHT, *MOLECULAR WEIGHT
- 20647 THEORY OF LIQUIDS. MIT. ARTS. C. K. AT SCI. (INDIA) VOL. 3, 347-48 (1935) 3 TAB 4 REF MF NO. 198-I A3 B1 C1 D1 E3 F7 G1 35
*DENSITY, *SURFACE TENSION, *HELIUM, *HEAT OF VAPORIZATION, *HYDROGEN, *NEON, *NITROGEN, *ARGON, *LIQUID
- 20649 CALCULATION OF THE THERMODYNAMIC PROPERTIES OF HELIUM. RAHINOVICH, V.A. INZP. FIZ. ZH. AKAD. NAUK BELORUS. SSR VOL. 6, NO. 4, 118-22 (1963) 2 FIG 2 TAB 5 REF MF NO. 204-J A3 B7 C7 D1 E1 F7 G1 63
*DEUTERIUM, *GASEOUS, *HYDROGEN, *EQUATION OF STATE, *PVT DATA
- 20651 EQUATION OF STATE AND THE THERMODYNAMIC PROPERTIES OF OXYGEN. KESSEL, HAN, P.M. INZP. FIZ. ZH. AKAD. NAUK BELORUS. SSR VOL. 6, NO. 6, 61-67 (1963) 2 TAB 10 REF CA 57 9351D MF NO. 204-F A3 B7 C7 D1 E3 F7 G1 63
*OXYGEN, *EQUATION OF STATE, *DENSITY, *GASEOUS, *ENTHALPY, *ENTROPY
- 20617 THE DIRECT MEASUREMENT OF THE ISO-THERMAL JOULE-THOMPSON COEFFICIENT FOR GASES. CHARNLEY, A. ISLES, G.L. TOWNLEY, J.A. (UNIV. OF MANCHESTER) PREC. ROY. SOC. (LONDON) VOL. A219, 133-43 (1958) 7 FIG 17 REF MF NO. 200-F A3 B1 C1 D1 E1 F7 G1 58
*NITROGEN, *ETHYLENE, *INORGANIC FLUID, *CRITICAL TEMPERATURE, *CARBON DIOXIDE, *GASEOUS, *JOULE-THOMPSON COEFFICIENT
- 20693 CALCULATION OF THE BOILING POINT OF INERT GASES AND MOLECULAR CRYSTALS. OSHCHERIN, B.M. (LENSKOEI TECHNOL. INST., LENINGRAD) INZP. FIZ. ZH. VOL. 6, NO. 9, 97-99 (1963) 3 TAB 10 REF CA 59 14401B MF NO. 208-A A3 B7 C1 D1 E1 F7 G1 63
*HELIUM, *ARGON, *NEON, *KRYPTON, *XENON, *SOLIDIFIED GAS, *DEW POINT, *BOILING TEMPERATURE, *RADON, *HYDROGEN, *HELIUM, *METHANE, *OXYGEN, *FLUORINE
- 20695 JOULE-THOMPSON COEFFICIENT OF METHANE. SATURANTS, A.M. MAPOUD, A.M. IZV. AKAD. NAUK AZER. SSR. FIZ.-MATH. I. TEKHN. NAUK VOL. 1962, NO. 3, 137-44 (1962) 2 FIG 3 TAB 1C REF CA 58 1956E MF NO. 208-B A3 B7 C1 D1 E1 F7 G1 62
*METHANE, *GASEOUS, *JOULE-THOMPSON COEFFICIENT
- 20696 ELASTICITY AND EXPANSION COEFFICIENTS OF HELIUM, HYDROGEN AND NITROGEN. HEATING, F. HEUSE, M. ARMY MISSILE COMM. HUNTSVILLE, ALA., TRANS. AD. RSIC-49 (AUG 1963) 30 PP 14 REF (TRANS. FROM, Z. PHYSIK, (BERLIN) VOL. 5, NO. 6, 285-314, 1921) NASA 603 21232 A3 B1 C1 D1 E1 F7 G1 63
*HELIUM, *HYDROGEN, *NITROGEN, *GASEOUS, *EXPANSIVITY, *COMPRESSIBILITY, *LOW PRESSURE, TEMPERATURE SCALE, HELIUM, THERMOMETRY
- 20697 STUDIES OF THE EQUATION OF STATE. IV. THE COMPRESSIBILITY EQUATION OF LIQUIDS. MOHL, A. REDSTONE SCI. INFROM. CENTER, ARMY MISSILE COMM., HUNTSVILLE, ALA., TRANS. NO. RSIC-50 (AUG 1963) 12 PP 9 REF (TRANS. FROM, Z. PHYSIK, CHEM. (FRANKFURT) VOL. 59, 234-41, 1921) NASA 603 21232 A3 B1 C1 D1 E1 F7 G1 63
*EQUATION OF STATE, *GASEOUS, *COMPRESSIBILITY, *HIGH PRESSURE, *HYDROGEN, *CARBON DIOXIDE
- 20698 DETERMINATION OF HEAT CAPACITY, CV, OF OXYGEN NEAR THE CRITICAL POINT. VORONEL, A.V. CHASHKIN, YU.R. POPOV, V.A. SIMKIN, V.G. (INST. PHYS.-TECH. AND RADIOTECH. MEASUREMENTS, MOSCOW) INZP. EKSPIL. I. TEKHN. FIZ. VOL. 45 NO. 3, 828-30 (1963) 3 FIG 1 TAB 6 REF CA 59 14659H MF NO. 202-I A3 B7 C1 D1 E1 F7 G1 63
*OXYGEN, *LIQUID, *CRITICAL REGION, *SPECIFIC HEAT, *ISOTHERM, *CRITICAL CONSTANTS
- 20900 SURVEY OF CURRENT WORK ON PROPERTIES OF PARAHYDROGEN, GOSLWIM, R.D. DILLER, C.E. HALL, W.J. HODEN, H.P. MEHR, L.A. YOUNGLOVE, M.A. ADVANCES IN CRYOGENIC ENGINEERING VOL. 9, 234-42 (PROC. 1963 CRYOGENIC ENG. CONF.) PLENUM PRESS, NEW YORK (1964) 6 FIG 1 TAB 22 REF A3 B1 C1 D1 E2 F6 G2 63
*PARAHYDROGEN, *GASEOUS, *LIQUID, *DENSITY, *PVT DATA, *EQUATION OF STATE, *SERIAL COEFFICIENT, *MELTING CURVE, *SATURATED LIQUID, *SATURATED VAPOR, *CRITICAL CONSTANT, *HEAT OF VAPORIZATION, *JOULE-THOMPSON COEFFICIENT, *VELOCITY OF SOUND, *PARAHYDROGEN, *LIQUID, *SPECIFIC HEAT, *SATURATED LIQUID
- 20903 CALCULATION OF THE VAPOR PRESSURE AND HEATS OF VAPORIZATION AND SOLIFICATION OF LIQUIDS AND SOLIDS. *SPECIALLY HELD - ONE ATOMOSPHERE PRESSURE. TIL, MEHANE, ZIEGLER, W.T. MULLINS, J.C. KIRK, H.S. GEORGIA INST. TECHNOL. ENG. EXPT. STA., ATLANTA, REPT. NO. 18 3 (AUG 1962) CONTR. AC. CST-7238, PROJ. N. A-460, 6C PP 4 FIG 14 TAB 47 REF A3 B1 C1 D1 E3 F8 G5 62
*METHANE, *SOLIDIFIED GAS, *LIQUID, *SPECIFIC HEAT, *BOILING POINT, *TRIPLE POINT, *SOLID-SOLID TRANSITION, *HEAT OF FUSION, *HEAT OF VAPORIZATION, *HEAT OF SOLIFICATION, *VAPOR PRESSURE, *DENSITY
- 20909 THE SPEED AND ADSORPTION OF ULTRASOUND IN NITROGEN AT PRESSURES UP TO 5000 KG./CM². VCLAROVICH, P.P. MALASHOV, D.H. *VOPRENIIE UL'TRAKUSTIKI K ISSLE. *TEKHNIKA, *MOSCOW, U.S.S.R. 1961, NO. 13, 63-77 CA 58 38U MF NO. 204-C A3 B7 C1 D1 E1 F7 G1 61
*NITROGEN, *GASEOUS, *PHYSICAL PROPERTY, *SOUND ADSORPTION, *HIGH FREQUENCY, *SPECIFIC HEAT RATIO, *VELOCITY OF SOUND
- 20923 LATTICE THERMAL CONDUCTIVITY OF SOLID HELIUM. AGRAWAL, B.K. PHYS. REV. VOL. 126, 803-05 (1962) A3 B1 C5 D1 E1 F6 G1 62
*HELIUM, *HELIUM 4, *SOLIDIFIED GAS, *THERMAL CONDUCTIVITY, *THERM, *CALCULATION
- 20943 EQUATION OF STATE FOR PARAHYDROGEN. TRACHENKUE, A. MILLER, R.A. *VOPRENIIE UL'TRAKUSTIKI K ISSLE. *TEKHNIKA, *MOSCOW, U.S.S.R. 1961, NO. 13, 63-77 CA 58 38U MF NO. 204-C A3 B7 C1 D1 E1 F7 G1 61
*NITROGEN, *GASEOUS, *PHYSICAL PROPERTY, *SOUND ADSORPTION, *HIGH FREQUENCY, *SPECIFIC HEAT RATIO, *VELOCITY OF SOUND
- 20943 THE QUEST FOR DESIGN DATA. STEPHART, R.R. PREC. ASHKE SEMI-ANNUAL MEETING, N. Y. (FEB 11-14, 1963) 13-24 (V.J. JOHNSON, EDITOR) AM. SOC. HEATING, REFRIG. AIR CONDITIONING ENGRS. INC., N. Y. (1964) 5 FIG 7 REF MF NO. 204-C A3 B1 C1 D1 E1 F7 G1 63
*OXYGEN, *NEON, *NITROGEN, *ARGON, *GASEOUS, *LAW OF CORRESPONDING STATES, *PVT DATA
- 20974 DIE SCHMELZKURVE UND DER VOLUMENSPRUNG AM SCHMELZPUNKT VON N₂, N₂O, CO₂ UND CO. DER TRENNFaktor DER STICKSTOFFISOTOPE IM SYSTEM N₂/CH₄ BEI 111,2 DEGREE F. THE MELTING CURVE AND THE VOLUME CHANGE ON MELTING OF N₂, N₂O, CO₂, AND CO. THE SEPARATION FACTOR OF NITROGEN ISOTOPIES IN THE SYSTEM N₂/CH₄ AT 111,2 DEGREE K. VAPLE, E. ZUERICH UNIVERSITAET, SWITZERLAND, DOCTORAL DISSERTATION (1962) 56 PP 54 REF CA 58 17341 A3 B1 C1 D1 E1 F7 G1 62
*NITROGEN, *INORGANIC FLUID, *OXIDE OF NITROGEN, *CARBON DIOXIDE, *CARBON MONOXIDE, *SOLIDIFIED GAS, *LIQUID, *MELTING CURVE, *DENSITY, *VOLUME CHANGE, *PARASEC MIXTURE, *LIQUID MIXTURE, *BINARY SYSTEM, *METHANE, *OXIDE OF NITROGEN, *ISOTOPE, *PHASE EQUILIBRIUM
- 20975 KINETIC THEORY OF SIMPLE LIQUIDS. RICE, S.A. (UNIV. CHICAGO) AM. CHEM. SOC. ANSTR. PAPERS, NO. 144 (1963) 21 PP CA 58 17341 A3 B1 C1 D1 E1 F7 G1 63
*HELIUM, *NEON, *ARGON, *KRYPTON, *LIQUID, *THERMAL CONDUCTIVITY, *VISCOSITY, *TRANSPARENT PROPERTY, *DIFFUSION
- 21002 VISCOSITY MEASUREMENTS IN LIQUID NEON, ARGON, AND NITROGEN. FORSTER, S. (TECHNISCHE UNIVERSITAET, DRESDEN, GER.) CRYOGENICS VOL. 3, NO. 3, 176-77 (SEP 1963) 1 FIG 2 TAB 6 REF CA 58 1956E MF NO. 208-B A3 B1 C1 D1 E1 F7 G1 63
*VISCOSITY, *LIQUID, *NEON, *ARGON, *NITROGEN, *TRIPLE POINT-TU-CRITICAL POINT
- 21010 AN APPROXIMATE CELL MODEL FOR LIQUID HYDROGEN, II. HENDERSON, D. PREC. NATL. ACAD. SCI. U.S. VOL. 40, 487-92 (1963) 1 FIG 4 TAB 1C REF MF NO. 206-F A3 B1 C1 D1 E1 F7 G1 63
*HYDROGEN, *DEUTERIUM, *TRITIUM, *HYDROGEN DEUTERIDE, *DEUTERIUM TRITIDE, *GASEOUS, *HYDROGEN TRITIDE, *ENTROPY, *INTERNAL ENERGY, *SPECIFIC HEAT, *REDUCED VARIABLE, *CRITICAL CONSTANT
- 21051 THERMODYNAMIC PROPERTIES OF METHANE AND NITROGEN AT LOW TEMPERATURES AND HIGH PRESSURES. JONES, M.L., JR. MICHIGAN UNIV., ANN ARBOR, PH. D. THESIS (1962) 182 PP (ANSTR. IN DISSERTATION ABST. VOL. 23, 173, 1962) (AVAIL. UNIV. MICROFILMS, ANN ARBOR, MICH., ORDER NO. 62-2747) CA 58 6254E MF NO. 262 A3 B1 C1 D1 E1 F7 G1 62
*NITROGEN, *LIQUID, *SPECIFIC HEAT, *HEAT OF VAPORIZATION, *VAPOR PRESSURE, *METHANE, *LIQUID, *SPECIFIC HEAT, *HEAT OF VAPORIZATION, *CRITICAL REGION, *ENTHALPY, *PRESSURE-ENTHALPY DIAGRAM, *GASEOUS, *EQUATION OF STATE
- 21052 ELASTIC AND THERMAL PROPERTIES OF SOLID ARGON AT LOW TEMPERATURES. WINTER, R.P. MARYLAND UNIV., COLLEGE PARK, PH. D. THESIS (1963) 93 PP (ANSTR. IN DISSERTATION ABST. VOL. 24, 359-60, 1963) (AVAIL. UNIV. MICROFILMS, ANN ARBOR, MICH., ORDER NO. 63-4268) CA 59 14592C MF NO. 260 A3 B1 C1 D1 E1 F7 G1 63
*ARGON, *SOLIDIFIED GAS, *EQUATION OF STATE, *LATTICE PARAMETER, *CRYSTAL STRUCTURE, *LENNARD-JONES FUNCTION, *ELASTIC CONSTANT, *THERMAL EXPANSION, *CALCULATION
- 21053 THE VISCOSITY OF NITROGEN AND ARGON AS A FUNCTION OF DENSITY AND TEMPERATURE. FLYNN, G.P. ARIZONA UNIV., PHOENIX, ARIZ., PH. D. THESIS (1962) 154 PP (ANSTR. IN DISSERTATION ABST. VOL. 23, 2337-38, 1963) (AVAIL. UNIV. MICROFILMS, ANN ARBOR, MICH., ORDER NO. 63-1018) CA 58 9644E MF NO. 261 A3 B1 C1 D1 E1 F7 G1 63
*ARGON, *NITROGEN, *GASEOUS, *VISCOSITY, *DENSITY, *TEMPERATURE EFFECT, *PRESSURE EFFECT, *HIGH PRESSURE, *EQUATION

- 21078 ISOTHERMS OF MONATOMIC SUBSTANCES AND THEIR BINARY MIXTURE
EXV. IDEM OF DIATOMIC SUBSTANCES XXXI. THE COMPRESSIBILITY OF
HYDROGEN AND HELIUM GAS BETWEEN 40 DEGREES AND 14 DEGREES K.
VAN ADEL, P.G.A.J., CHNES, H.K.,
REESTONE SCI. INFROM. CENTER, ARMY MISSILE CORP., HUNTSVILLE,
ALA., TRANS. NO. NSIC-32 (JUN 1963) 14 PP (TRANS. PROP.
VERSLAG. GEWONE VERGADER AFDEL. NATUURK. KONIAK. AFD. AKAD.
WETENSCHAP. VOL. 34, 221-37, 1975)
NASA N13 212010 A3 B1 C4 D1 E1 F1 G4 25
HYDROGEN, HELIUM, GASEOUS, PVF DATA, COMPRESSIBILITY
FACTOR, ISOTHERM, REGULATION OF STATE, SECOND VIRIAL COEFFICIENT
- 21079 PHYSICS. THE STRAIGHT-LINE DIAMETER OF HYDROGEN.
MATHIAS, E., CROMBIE, C.A., UNNIS, M.K.,
REESTONE SCI. INFROM. CENTER, REESTONE ARSENAL, ALA.,
TRANS. NO. NSIC 19 (JULY 1963) 3 PP (TRANS. FROM CEMPT. REED.
VOL. 172, 261-63, 1971)
DDC AD 411 351 A3 B1 C4 D1 E1 F5 G4 21
HYDROGEN, GASEOUS, LIQUID, DENSITY, SATURATED VAPOR,
SATURATED LIQUID, LAW OF RECILINEAR DIAMETERS
- 21123 THE VELOCITY OF ORDINARY SOUND IN LIQUID HELIUM IN THE VICINITY
OF THE LAMBDA POINT.
CHASE, C.E., EMIT, L (CGLN LAB.)
LOW TEMPERATURE PHYSICS AND CHEMISTRY, 71-76 (PROG. 5TH INTERNA.
CONF., 1957, J.N. FILLINGER, ED.) UNIV. OF WISCONSIN PRESS,
MADISON (1958) 2 FIG 4 REF
A2 B1 C5 D1 E2 F4 G2 58
HELIUM, LIQUID, LAMBDA TEMPERATURE, THEORY, VELOCITY OF SOUND,
SOUND ABSORPTION, PHYSICAL PROPERTY
- 21126 VAPOR PRESSURES OF NORMAL SATURATED HYDROCARBONS.
THODOS, G.E. (NORTHWESTERN TECHNOL. INST., EVANSTON, ILL.)
IND. ENG. CHEM. VOL. 42, 1514-26 (AUG 1950) 15 FIG 4 TAB 94 REF
A3 B1 C7 D3 E3 F4 G1 50
METHANE, ETHANE, PROPANE, BUTANE, HYDROCARBON, PARAFFIN
CLASS, LIQUID, VAPOR PRESSURE, HEPTANE, PENTANE, EQUATION,
CALCULATION, COMPILATION, CRITICAL POINT
- 21127 GENERALIZED THERMODYNAMIC PROPERTIES OF HIGHLY HYDROCARBON
VAPORS.
COPE, J.O., LEWIS, W.K., NEMEN, H.G. (MIT, CAMBRIDGE)
IND. ENG. CHEM. VOL. 23, 871-92 (AUG 1931) 7 FIG 7 TAB 12 REF
A3 B1 C7 D3 E3 F4 G1 31
ETHANE, PROPANE, BUTANE, HYDROCARBON, PENTANE, HEPTANE,
PARAFFIN CLASS, LIQUID, VAPOR PRESSURE, SATURATED VAPOR,
CALCULATION, REDUCED VARIABLE
- 21132 PHYSICO-CHEMICAL FACTORS IN HIGH-PRESSURE DESIGN.
HODGE, R.F., LYALE UNIV., NEW HAVEN, CONN.,
IND. ENG. CHEM. VOL. 24, 1153-63 (DEC 1932) 4 FIG 3 TAB 56 REF
A3 B1 C1 D1 E2 F4 G1 32
CARBON DIOXIDE, NITROGEN, HYDROGEN, AMMONIA, GASEOUS,
PVF DATA, EQUATION OF STATE, COMPRESSIBILITY FACTOR, REDUCED
VARIABLE, ETHYLENE, SPECIFIC HEAT, HIGH PRESSURE, CALCULATION
- 21133 FUNDAMENTAL DESIGN OF HIGH PRESSURE EQUIPMENT INVOLVING PARAFFIN
HYDROCARBONS. I. PRESSURE-VOLUME-TEMPERATURE RELATIONS OF
PARAFFIN HYDROCARBONS.
MCKEN, G.L., SHINDERS, P., JR., SMITH, R.L. (UNIV. MICHIGAN,
ANN ARBOR)
IND. ENG. CHEM. VOL. 24, 513-15 (MAY 1932) 5 FIG 2 TAB 9 REF
A3 B1 C7 D3 E3 F4 G1 32
METHANE, ETHANE, PROPANE, BUTANE, ISOBUTANE, HYDROCARBON,
HEPTANE, PENTANE, PARAFFIN CLASS, GASEOUS, PVF DATA, REDUCED
VARIABLE, EQUATION OF STATE, CALCULATION
- 21134 THE CRITICAL PROPERTIES OF ELEMENTS AND COMPOUNDS.
KUM, K.A., LYNN, R.E., JR. (H.F. GOODRICH RES. CENTER,
BRIEKSVILLE, OHIO)
CHEM. REV. VOL. 52, 117-236 (1953) 12 FIG 22 TAB 152 REF
A3 B1 C5 D1 E2 F4 G1 53
CRITICAL CONSTANTS, COMPILATION, HELIUM, HELIUM 3, HELIUM 4,
NEON, ARGON, KRYPTON, XENON, HYDROGEN, PARAHYDROGEN,
HYDROGEN DEUTERIDE, DEUTERIUM, NITROGEN,
A3 B1 C5 D1 E2
CRITICAL CONSTANTS, COMPILATION, OXYGEN, OZONE, METHANE,
CARBON MONOXIDE, CHLORINE, PROPYLENE, IODINE, HYDROCARBON,
ORGANIC FLUID, INORGANIC FLUID, ETHYLENE, ETHANE
- 21135 THE 262K12 TEMPERATURE SCALE. I. NEW VAPOR PRESSURE
COMPARISONS.
SYCEK, S.G., SHERMAN, R.H.,
LOS ALAMOS SCI. LAB., N. MEX., REPT. NO. LADC-5711 (1962)
CONF. NO. W7405-ENG-38, 51 PP 7 FIG 3 TAB 11A U. S. GOV.
RES. REPTS. VOL. 30, AD, 24, 5-6, DEC 1963)
A3 B1 C4 D1 E1 F3 G5 62
HELIUM, HELIUM 3, HELIUM 4, LIQUID, VAPOR PRESSURE, VAPOR
PRESSURE DIFFERENCE, TEMPERATURE SCALE, CRITICAL CONSTANT,
CRITICAL PRESSURE,
A4 B1 C4 D1 E1
COPPER, KAPITZA RESISTANCE,
A7 B1 C4 D1 E1
- 21136 SCOPE PROPERTIES OF SOLID HYDROGEN AT SMALL MOLAR VOLUMES.
AHLERS, GUNTHER,
CALIF. UNIV., LAWRENCE RAD. LAB., BERKELEY, CALIF.,
REPT. NO. UCR-10757 (SEPT 1963) UNIV. NO. W-7405-ENG-48,
133 PP (PH. D. THESIS)
A3 B1 C5 D1 E1 F4 G5 63
HYDROGEN, SOLIDIFIED GAS, SPECIFIC HEAT, ENTROPY, SOLID-SOLID
TRANSITION, THERMAL EXPANSION, DENSITY, MOLAR VOLUME,
PARAHYDROGEN, MELTING POINT, GRUNEISEN PARAMETER, DENYE
CONSTANT, LATTICE SPECIFIC HEAT,
A4 B1 C5 D1 E1
ORTH-TO-PARA CONVERSION, HYDROGEN, SOLID,
A2 B1 C5 D1 E1
- 21176 COPPER, SPECIFIC HEAT
21210 See Appendix
21201 EXPERIMENTAL STUDY OF THE VELOCITY OF SOUND IN ARGON ALONG
THE LINES OF SATURATION.
RACEVSKII, I.S.,
IN. PRIKL. MATEMAT. 1 TERMO. FIZ., NO. 3, 159-62 (1963)
3 FIG 1 TAB 7 REF
PF NO. 201-B A3 B7 C7 D1 E1 F7 G1 63
ARGON, LIQUID, GASEOUS, SATURATED VAPOR, SATURATED
LIQUID, VELOCITY OF SOUND
- 21305 THE VISCOSITY OF DISSOCIATED AND UNDISSOCIATED GASES FOR
TEMPERATURES UP TO 10,000 DEGREES K.
MATHUR, G.P., THODOS, G. (NORTHWESTERN UNIV., EVANSTON,
ILL.)
A.I.C.H.E. JOURNAL VOL. 9, NO. 5, 596-99 (SEPT 1963) 5 FIG 14 REF
A3 B1 C1 D3 E3 F4 G1 63
HELIUM, NEON, ARGON, KRYPTON, XENON, CRITICAL TEMPERATURE,
CRITICAL PRESSURE, GASEOUS, TEMPERATURE EFFECT, VISCOSITY,
REDUCED VARIABLE, HYDROGEN, OXYGEN, NITROGEN
- 21337 THE MOLAR VOLUME AND EXPANSION COEFFICIENT OF LIQUID HE4.
KERR, L.C., TAYLOR, H.C. (LOS ALAMOS SCI. LAB., N. MEX.)
ANN. PHYS. A. V. VOL. 26, NO. 2, 297-304 (FEB 1964) 6 FIG 1 TAB
29 REF
PF NO. 223 A3 B1 C4 D1 F1 F4 G1 64
HELIUM, LIQUID, EXPANSIVITY, DENSITY, MOLAR VOLUME,
LAMBDA TEMPERATURE, SPECIFIC HEAT
- 21338 THE THERMAL CONDUCTIVITY OF NONPOLAR SUBSTANCES IN THE DENSE
GASEOUS AND LIQUID REGIONS.
STIEL, L.L., THODOS, G. (NORTHWESTERN UNIV., EVANSTON, ILL.)
A.I.C.H.E. JOURNAL VOL. 10, NO. 1, 26-30 (JAN 1964) 2 FIG 1 TAB 62
REF
A3 B1 C1 D1 E2 F4 G1 64
THERMAL CONDUCTIVITY, LIQUID, GASEOUS, ARGON, KRYPTON,
XENON, NITROGEN, OXYGEN, CARBON MONOXIDE, METHANE,
COMPRESSIBILITY FACTOR, HYDROCARBON, CARBON DIOXIDE
- 21403 VAPOR PRESSURES OF THE LIGHT NORMAL SATURATED HYDROCARBONS.
PERRY, R.E., THODOS, G. (NORTHWESTERN UNIV., EVANSTON, ILL.)
IND. ENG. CHEM. VOL. 44, NO. 7, 1649-58 (JUL 1952) 8 FIG 5 TAB
27 REF
A3 B1 C7 D1 E3 F4 G1 52
VAPOR PRESSURE, HYDROCARBON, METHANE, ETHANE, PROPANE,
EQUATION, LIQUID, LIQUID
- 21404 A NEW THERMODYNAMIC CRITERION AT THE CRITICAL POINT OF MATTER.
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VAPOR PRESSURE, CRITICAL REGION, LIQUID, TEMPERATURE EFFECT,
CARBON MONOXIDE, NITROGEN, OXYGEN, ARGON, NEON,
HYDROGEN, EQUATION, ETHYLENE, AMMONIA, CARBON DIOXIDE
- 21414 AN APPARATUS FOR PHASE STUDIES BETWEEN 20 DEGREES K. AND 300
DEGREES K.
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GASEOUS MIXTURE, LIQUID MIXTURE, JEN POINT, PVF DATA,
PHASE EQUILIBRIUM, BINARY SYSTEM, MELT, LIQUID-VAPOR
EQUILIBRIUM, NITROGEN,
A3 B1 C7 D1 E1
COMPRESSIBILITY FACTOR, GASEOUS MIXTURE, LIQUID MIXTURE,
SATURATED VAPOR,
A7 B1 C4 D1 E1
- 21433 MULTIPHASE AND VOLUMETRIC EQUILIBRIUMS OF THE METHANE-N-OCTANE
SYSTEM AT TEMPERATURES BETWEEN -110 DEGREES AND 150 DEGREES.
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BINARY SYSTEM, METHANE, OCTANE, PHASE EQUILIBRIUM,
LIQUID MIXTURE, GASEOUS MIXTURE, DENSITY, SOLID-LIQUID
EQUILIBRIUM, SOLID-VAPOR EQUILIBRIUM, LIQUID-VAPOR
EQUILIBRIUM
- 21503 THE VIRIAL COEFFICIENTS OF THE CARBON DIOXIDE-ETHYLENE
SYSTEM. I. PURE GASES.
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GASEOUS MIXTURE, CARBON DIOXIDE, ETHYLENE, REGULATION
OF STATE, SECOND VIRIAL COEFFICIENT, LEHARD-JONES FUNCTION
- 21610 THE VISCOSITY OF LIGHT HYDROCARBON MIXTURES AT HIGH PRESSURES.
THE METHANE-PROPANE SYSTEM.
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GASEOUS MIXTURE, LIQUID MIXTURE, METHANE, PROPANE,
VISCOSITY, BINARY SYSTEM, LIQUID-VAPOR EQUILIBRIUM
- 21696 GRAPHIC ANALYSIS OF P-V-T RELATIONS OF SOME LIQUID NORMAL ALKANES.
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IZV. AKAD. NAUK AZERB. SSR, SER. FIZ.-MATEM. 1 TRABA. NAUK
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ETHANE, PROPANE, BUTANE, PVF DATA, LIQUID, COMPRESSIBILITY,
ISCOR, EQUATION OF STATE
- 21695 MORSE POTENTIAL PARAMETERS FOR HELIUM.
BA-ETHI, U.P., SARENA, S.C. (RAJASTHAN UNIV., JAIPUR, INDIA)
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HELIUM, GASEOUS, INTERMOLECULAR FORCE, MORSE FLUCTION,
SECOND VIRIAL COEFFICIENT, VISCOSITY, EQUATION OF STATE
- 21696 SECOND VIRIAL COEFFICIENT OF GASES AND GASEOUS MIXTURES ON
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GASEOUS MIXTURE, NEON, ARGON, KRYPTON, BINARY SYSTEM,
REGULATION OF STATE, INTERMOLECULAR FORCE, MORSE FLUCTION,
CALCULATION,
A3 B1 C1 D1 E3
GASEOUS MIXTURE, ARGON, METHANE, BINARY SYSTEM,
REGULATION OF STATE, INTERMOLECULAR FORCE, MORSE FLUCTION,
CALCULATION
21747 See Appendix
21750 THE TEMPERATURE VARIATION OF SOME THERMODYNAMIC PROPERTIES.
MURPHY, G.N. (YALE UNIV., NEW HAVEN, CONN.)
J. CHEM. PHYS. VOL. 9, 437-41 (AUG 1937) 3 FIG 3 TAB 10 REF
A3 B1 C1 D1 E3 F4 G1 37
ZERO POINT ENERGY, HYDROGEN, EQUATION, DEUTERIUM, HYDROGEN
DEUTERIDE, FREE ENERGY, ENTHALPY, SPECIFIC HEAT, ENTROPY,
INORGANIC FLUID, GASEOUS, DEUTERO COMPOUND

- 21754 THE DETERMINATION OF THE BOILING AND TRIPLE POINTS OF
EQUILIBRIUM HYDROGEN AND ITS VAPOR PRESSURE-TEMPERATURE
RELATION. BARBER, C.M. MORSE, G.A. (NATL. PHYS. LAB., TEDDINGTON,
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13 REF
CA 60 380 A3 B1 C4 D1 E1 F1 G1 G3
*PARAMHYDROGEN, *BOILING POINT, *TRIPLE POINT, *VAPOR PRESSURE,
*EQUATION
- 21755 A SMALL ANGLE X-RAY SCATTERING STUDY OF ARGON NEAR THE
CRITICAL POINT. THOMPSON, J.E., JR.
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A3 B1 C4 D1 E1 F1 G1 G3
*ARGON, *COMPRESSIBILITY, *X-RAY, *SCATTERING, *CRITICAL REGION,
*ISOTHERM
- 21757 VISCOSITY OF HYDROGEN, DEUTERIUM, METHANE, AND CARBON MONOXIDE
FROM MINUS 50 DEGREES C TO 150 DEGREES C BELOW 200 ATMOSPHERES.
BARUA, A.K. HOSS, J. AFZAL, M.
BROWN UNIV., METCALF CHEM. LABS., PROVIDENCE, R.I., TECH.
REPT. NO. BRN-10-P (JAN 1964) CONTR. NO. NCAR 362310G,
NR-09H-J30, 18 PP 4 FIG 5 TAB 17 REF
NASA 64 15762 A3 B1 C4 D1 E1 F1 G1 G5
*VISCOSITY, *GASEOUS, *HYDROGEN, *DEUTERIUM, *METHANE,
*CARBON MONOXIDE, *DENSITY
- 21794 COMPRESSIBILITY ISOTHERMS AND THERMODYNAMIC FUNCTIONS OF
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INTERMOLECULAR FIELD. DE GRAFF, W.
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A3 B1 C7 D1 E1 F1 G1 G2 G3
*HYDROGEN, *DEUTERIUM, *GASEOUS, *PVT DATA, *COMPRESSIBILITY
FACTOR, *ISOTHERM, *DENSITY, *EQUATION OF STATE, *VIRIAL
COEFFICIENT, *SECOND VIRIAL COEFFICIENT, *THIRD VIRIAL
COEFFICIENT, *INTERMOLECULAR FORCE,
*HYDROGEN, *DEUTERIUM, *GASEOUS, *CALCULATION, *INTERNAL
ENERGY, *ENTROPY, *FREE ENERGY, *ENTHALPY, *SPECIFIC HEAT,
*VELOCITY OF SOUND, *JULIE-THOMPSON COEFFICIENT
- 21802 PROPOSED NOMENCLATURE FOR HELIUM ALLOTROPES.
DAUNT, J.G. SCHUCH, A.F. MILLS, R.L.
PHYS. TODAY VOL. 17, NO. 1, 50-51 (JAN 1964) 2 FIG 1 TAB
9 REF
A3 B1 C4 D3 E2 F6 G1 G4
*HELIUM, *HELIUM 3, *HELIUM 4, *SOLIDIFIED GAS, *SOLID-SOLID
TRANSITION
- 21805 THE MELTING LINE AND INTERMOLECULAR POTENTIAL OF ARGON FROM
SHOCK COMPRESSION. ALDER, B.J. VAN THIEL, P. (UNIV. OF CALIFORNIA, BERKELEY)
PHYS. LETTERS VOL. 7, NO. 5, 317-17 (DEC 1963) 2 FIG 22 REF
CA 60 3498H A3 B1 C7 D3 E1 F7 G1 G3
*ARGON, *SOLIDIFIED GAS, *MELTING CURVE, *SHOCK WAVE, *LIQUID
- 21806 LAMBDA ANOMALY IN THE HEAT CAPACITY OF SOLID HYDROGEN AT SMALL
MOLAR VOLUMES. AHLERS, G. CRITTING, W.M. (LAWRENCE RAD. LAB., UNIV. CALIF.,
BERKELEY)
PHY. REV. VOL. 133, NO. 6A, A1642-50 (MAR 1964) 13 FIG 23 REF
A3 B1 C5 D3 E1 F6 G1 G4
*HYDROGEN, *SOLIDIFIED GAS, *SPECIFIC HEAT, *CRITICAL-AREA
HYDROGEN, *ANOMALY
- 21824 THE SOLIDIFIED INERT GASES. BOATO, G. (ISTITUTO DI FISICA DELL'UNIVERSITA, GENOVA,
ITALY)
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A3 B1 C1 D1 E2 F7 G1 G4
*HEAT OF VAPORIZATION, *HYDROGEN, *NEON, *ARGON, *KRYPTON,
*XENON, *NITROGEN, *OXYGEN, *LIQUID, *TRIPLE POINT, *DENSITY,
*SOLIDIFIED GAS, *PHASE TRANSITION PROPERTY, *HEAT OF
SUBLIMATION,
A4 B1 C1 D1 E2
*SOLID, *HELIUM, *NEON, *ARGON, *KRYPTON, *XENON, *HYDROGEN,
*DEUTERIUM, *INTERMOLECULAR FORCE, *LONNARD-JONES FUNCTION,
*DEBYE TEMPERATURE, *ZERO POINT ENERGY, *CRYSTALLINITY,
*MOLAR VOLUME,
A3 B1 C1 D1 E2
*ARGON, *SOLIDIFIED GAS, *SPECIFIC HEAT, *EXPANSIVITY
- 21853 THERMODYNAMIC PROPERTIES OF HYDROGEN AND DEUTERIUM AT
TEMPERATURES BETWEEN -175 DEGREES C AND 150 DEGREES C AND AT
PRESSURES UP TO 2500 ATMOSPHERES. MICHELS, A. DE GRAFF, W. WOLKERS, G.J.
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A3 B1 C7 D1 E2 F7 G1 G3
*HYDROGEN, *DEUTERIUM, *PVT DATA, *INTERNAL ENERGY, *ENTROPY,
*FREE ENERGY, *ENTHALPY, *SPECIFIC HEAT, *VELOCITY OF SOUND,
*JULIE-THOMPSON COEFFICIENT, *GASEOUS, *COMPRESSIBILITY FACTOR,
*ISOTHERM
- 21872 RESEARCH ON RHEOLOGIC AND THERMODYNAMIC PROPERTIES OF SOLID
AND SLUSH HYDROGEN. DWYER, R.F. COOK, G.A.
LINDE CO., CRAWFORD, N. Y., QUART. REPT. NO. 1 (SEPT 1963)
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NASA 64 13081 A3 B1 C4 D1 E2 F3 G5 G3
*PARAMHYDROGEN, *HEAT OF FUSION, *CALCULATION, *COMPILATION,
*SOLIDIFIED GAS, *DENSITY, *MELTING CURVE
- 21954 THERMODYNAMIC PROPERTIES OF CH4 AND CD4. COLWELL, J.M. GILL, E.K. MORRISON, J.A.
J. CHEM. PHYS. VOL. 40, NO. 7, 2041-42 (APR 1964) 1 TAB 4 REF
A3 B1 C7 D1 E1 F6 G1 G4
*METHANE, *DEUTERO-METHANE, *LIQUID, *HEAT OF VAPORIZATION,
*CORRECTION, *ENTROPY, *HEAT OF SUBLIMATION
- 21955 THERMAL CONDUCTIVITY AND VISCOSITY OF CARBON DIOXIDE. THE
CORRELATION AT EXPERIMENTAL DATA TO COVER THE RANGES
0-1100 DEGREES C AND 15-1000 LBY IN 2 AMS. SULLIVAN, K.
UNITED KINGDOM ATOMIC ENERGY AUTHORITY, RESEARCH GROUP,
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4 TAB 165 REF
A3 B1 C4 D1 E2 F3 G5 G3
*CARBON DIOXIDE, *GASEOUS, *VISCOSITY, *THERMAL CONDUCTIVITY,
*PRESSURE EFFECT, *COMPILATION
- 21990 PHENOMENA ALONG THE FCC-BCC TRANSITION LINE OF HE3 AND HE4.
SCHUCH, A.F. OVERMAN, W.C., JR. BRIDG, R.
PHYS. REV. LETTERS VOL. 10, NO. 10, 429-31 (MAY 1963) 1 FIG
1 TAB 12 REF
MF NO. 250 A3 B1 C5 D3 E3 F6 G1 G3
*HELIUM, *HELIUM 3, *HELIUM 4, *SOLIDIFIED GAS, *SOLID-SOLID
TRANSITION, *DEBYE CONSTANT, *PHASE TRANSITION PROPERTY,
*PRESSURE EFFECT
- 22001 PROPERTIES OF ADSORBED HELIUM. FREDERIKSE, H.P.R. (LEIDEN)
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*DESCRIPTION, *ADSORPTION, *ADSORPTION ISOTHERM, *HELIUM, *STEEL,
*TECHNOL., *CAMBRIDGE, 28-29 (SEPT 1949)
A3 B1 C5 D2 E1
*HELIUM, *ADSORPTION, *SPECIFIC HEAT
- 22009 THE LIQUID-SOLID TRANSFORMATION IN HELIUM HELIX THE LAMBDA-
POINT. SEASON, C.A. (CLARENDON LABORATORY, OXFORD)
PREC. INTERN. CONF. PHYSICS VERY LOW TEMP., MASS. INST.
TECHNOL., CAMBRIDGE, 37 (SEPT 1949)
A3 B1 C5 D2 E1 F6 G2 G4
*HELIUM, *HEAT OF FUSION, *SOLIDIFIED GAS, *MELTING CURVE,
*LAMBDA TEMPERATURE
- 22010 PROPERTIES OF THE LIGHT HELIUM ISOTOPES. DE BOER, J. (AMSTERDAM)
PREC. INTERN. CONF. PHYSICS VERY LOW TEMP., MASS. INST.
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A3 B1 C5 D1 E3 F6 G2 G4
*HELIUM, *HELIUM 3, *VAPOR PRESSURE, *DENSITY, *TEMPERATURE
EFFECT, *HELIUM 4, *LIQUID
- 22052 ULTRASONICS AT LOW TEMPERATURES AND OTHER TOPICS. VAN
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LOUVAIN)
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INST. TECHNOL., CAMBRIDGE, 120 (SEPT 1949)
A3 B1 C4 D1 E1 F6 G2 G4
*VELOCITY OF SOUND, *OXYGEN, *ARGON, *NITROGEN, *METHANE,
*HYDROGEN, *PARAMHYDROGEN, *LIQUID,
A3 B1 C4 D1 E1
*TRANSPORT PROPERTY, *DIFFUSION, *BINARY SYSTEM, *HYDROGEN,
*ARGON, *DEUTERIUM, *HELIUM, *OXYGEN, *NITROGEN
- 22219 SURFACE TENSION OF DEUTERIOHYDROGEN. GRIGORIEV, V.M. (PHYS. TECH. INST., ACAD. SCI. URS.
S.S.R., KIEV)
ZHUR. EKSP. I TEORET. FIZ. VOL. 45, NO. 2, 58-100 (1963)
2 FIG 1 TAB 8 REF
CA 60 1137H MF NO. 402 A3 B7 C6 D1 E1 F7 G1 G3
*HYDROGEN DEUTERIDE, *LIQUID, *SURFACE TENSION,
*TEMPERATURE EFFECT, *EQUATION
- 22220 COEFFICIENT OF THERMAL EXPANSION, FOLDED STATE CORRELATION
FOR THE GASEOUS AND LIQUID STATES OF PURE SUBSTANCES HAVING
SIMPLE MOLECULAR STRUCTURE. DAMASTIS, G. THODOS, C.
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CA 59 4574H MF NO. 202-C A3 B1 C7 D3 E2 F6 G1 G3
*ARGON, *PVT DATA, *EXPANSIVITY, *REDUCED VARIABLE,
*GASEOUS, *LIQUID, *THERMAL EXPANSION, *DENSITY
- 22234 ON THE PROPAGATION OF ULTRA-SOUND WAVES IN COMPRESSED
NITROGEN. GLINSKIY, A.A.
FOREIGN TECH. DIV., AF SYSTEMS COMM., WRIGHT-PATTERSON
AFB, OHIO, TRANS. OF ABSTR. REFERAT. 2H, FIZ. NO. 1, P. 72,
ABSTR. 12433, (1963)
DDC AD 412 204 A3 B1 C8 D2 E3 F5 G6 G3
*GASEOUS, *NITROGEN, *VELOCITY OF SOUND, *PRESSURE EFFECT,
*TEMPERATURE EFFECT
- 22235 ON THE PROPAGATION OF ULTRA-SOUND WAVES AT TEMPERATURES NEAR
THE CRITICAL ONE. GLINSKIY, A.A.
FOREIGN TECH. DIV., AF SYSTEMS COMM., WRIGHT-PATTERSON AFB,
OHIO, TRANS. OF ABSTR. REFERAT. 2H, FIZ. NO. 1, P. 72,
ABSTR. 12433, (1963)
DDC AD 412 206 A3 B1 C7 D2 E3 F5 G6 G3
*NITROGEN, *GASEOUS, *HIGH PRESSURE, *SHOCK WAVE, *CRITICAL REGION,
*VELOCITY OF SOUND, *TEMPERATURE EFFECT
- 22237 UBER DIE INVERSION DES JOULE-EFFEKTS. THE INVERSION IN THE
JOULE EFFECT. SCHUBEN, A.
ALLG. WARMTECH. VOL. 11, NO. 8-9, 146-49 (1963) 1 FIG 1 TAB
1 REF
CHMS 24-3-17336 MF NO. 334 A3 B3 C1 D1 E2 F7 G1 G3
*HELIUM, *NITROGEN, *HYDROGEN, *DEUTERIUM, *JULIE-THOMPSON
COEFFICIENT, *INVERSION CURVE, *GASEOUS
- 22241 MOLAL VOLUMES AND ZERO-POINT ENERGIES OF THE ISOTOPIC LIQUID
HYDROGENS. BIGELEISEN, J. (LEID. TECH. HOCHSCHULE, ZURICH, SWITZ.)
J. CHEM. PHYS. VOL. 39, NO. 5, 1356-57 (1963) 1 FIG 2 REF
CA 59 14599H MF NO. 206-K A3 B1 C4 D3 E3 F6 G1 G3
*HYDROGEN, *DEUTERIUM, *TRITIUM, *ZERO POINT ENERGY, *DENSITY,
*MOLAL VOLUME
- 22243 SIGNIFICANT STRUCTURE THEORY OF LIQUIDS. EYRING, H. PARCHI, R.P. (UNIV. OF UTAH, SALT LAKE CITY)
J. CHEM. EDUC. VOL. 40, NO. 11, 562-72 (1963) 10 FIG 6 TAB 14 REF
CA 60 1132G MF NO. 483 A3 B1 C1 D1 E3 F6 G1 G3
*LIQUID, *ARGON, *NITROGEN, *METHANE, *SURFACE TENSION,
*VISCOSITY, *THERMODYNAMIC,
A3 B1 C1 D1 E3
*HYDROGEN, *NORMAL HYDROGEN, *PARAMHYDROGEN, *HYDROGEN DEUTERIDE,
*DEUTERIUM, *CATHODEUTERIUM, *LIQUID, *DENSITY, *TRIPLE
POINT, *MELTING POINT, *CRITICAL CONSTANT, *VAPOR PRESSURE,
*THERMODYNAMIC PROPERTY,
A3 B1 C1 D1 E3
*ARGON, *KRYPTON, *XENON, *METHANE, *LIQUID, *DENSITY, *TRIPLE
POINT, *MELTING POINT, *CRITICAL CONSTANT, *THERMODYNAMIC
PROPERTY
- 22249 THE VISCOSITY OF THE ISOTOPES OF HYDROGEN AND THEIR
INTERMOLECULAR FORCE POTENTIALS. KESTIN, J. NAGASHIMA, A.
BROWN UNIV., PROVIDENCE, R. I., TECH. REPT. BRN-11-P
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3 FIG 7 TAB 11 REF
DDC AD 429 501 A3 B1 C4 D1 E1 F5 G5 G3
*HYDROGEN, *DEUTERIUM, *HYDROGEN DEUTERIDE, *GASEOUS,
*VISCOSITY, *INTERMOLECULAR FORCE, *PRESSURE EFFECT

- 22250 VAPOR PRESSURES, THE SATURATED ALIPHATIC HYDROCARBONS. SODAK, N.L., THODOS, G. (NORTHWESTERN UNIV., EVANSTON, ILL.) A.I.C.H.E. JOURNAL VOL. 2, 347-53 (1956) 3 FIG 5 TAB 61 REF MF NO. 296 A3 B1 C7 D1 E3 F6 G1 56
*VAPOR PRESSURE, *LIQUID, EQUATION, CALCULATION, *ETHANE, *ETHANE, *PROPANE, *BUTANE, *HYDROCARBON, *ORGANIC FLUID, TRIPLE POINT-CRITICAL POINT
- 22251 LES CHALLURS SPECIFIQUES DES GAZ ET L'EQUIVALENT MECANIQUE DE LA CALORIE. THE SPECIFIC HEAT OF GASES AND THE MECHANICAL EQUIVALENT OF THE CALORIES. LELC, M.A. ANA. CHIM. ET PHYS. VOL. 17, 484-510 (1899) MF NO. 310 A1 M2 C2 D1 E1 F7 G1 96
*AIR, *GASEOUS, *SPECIFIC HEAT, *CARBON MONOXIDE, *CARBON DIOXIDE, *HYDROGEN, *NITRIC OXIDE, *NITROUS OXIDE
- 22299 ON PROPERTIES OF LIQUID HELIUM 4. HAEFER, R.A. SULZER TECH. REV. VOL. 45, NO. 3, 126-38 (1962) 24 FIG 32 REF E1 64 15423 A3 B1 C4 D3 E2 F7 G1 53
*HELIUM, *HELIUM-4, *PHASE DIAGRAM, *LIQUID, *LAMBDA TEMPERATURE, *SPECIFIC HEAT, *ENTROPY, *VISCOSITY, *VELOCITY OF SOUND, *THERMAL CONDUCTIVITY, *SUPERFLUID
- 22318 VELOCITY OF SOUND IN LIQUID HYDROGEN AT LOW PRESSURES. REED, K.D. HENDERSCH, C. (UNIV. OF WATERLOO, ONTARIO, CAN.) AUSTRALIAN J. CHEM. VOL. 17, NO. 6, 705-06 (JUN 1964) 1 FIG 7 REF A3 B1 C6 D3 E3 F7 G1 64
*HYDROGEN, *LIQUID, *VELOCITY OF SOUND, CALCULATION, ZERO PRESSURE
- 22425 QUANTUM-MECHANICAL CALCULATION OF THE SECOND VIRIAL-COEFFICIENT OF HELIUM AT LOW TEMPERATURES. DE ROER, J., MICHELS, A. PHYSICA VOL. 6, NO. 5, 409-20 (MAY 1939) 3 FIG 3 TAB 10 REF A3 B1 C5 D1 E3 F6 G1 39
*HELIUM, *EQUATION OF STATE, SECOND VIRIAL COEFFICIENT, CALCULATION, INTERMOLECULAR FORCE, TEMPERATURE EFFECT, QUANTUM EFFECT
- 22426 DIELECTRIC CONSTANTS OF LIQUEFIED MOBILE GASES AND METHANE. AMEY, R.L., COLEMAN, M. (BROWN UNIV., PROVIDENCE, R.I.) J. CHEM. PHYS. VOL. 40, NO. 1, 146-48 (1964) 1 TAB 12 REF CA 63 24090 A3 B1 C7 D1 E1 F6 G1 64
*ARGON, *KRYPTON, *XENON, *METHANE, *LIQUID, *SOLIDIFIED GAS, *DIELECTRIC CONSTANT, CLAUSSIUS-MOSSOTTI RELATION, MELTING POINT, DENSITY
- 22428 THE VAPOR PRESSURES OF O- AND P-H2 AND D2. COMEN, K., URLEY, M.C. J. CHEM. PHYS. VOL. 7, 438 (1939) 5 REF A3 B1 C4 D1 E3 F6 G1 59
*ORTHODUTERUM, *PARA-DUTERUM, *DEUTERIUM, *ORTHODUTERUM, *PARADEUTERIUM, *HEAT OF SUBLIMATION, VOLUME CHANGE, CALCULATION
- 22429 AN ATTEMPT TO MEASURE THE THERMAL CONDUCTIVITY OF LIQUIDS, GASES, AND VAPORS WITH A HIGH DEGREE OF ACCURACY OVER WIDE RANGES OF TEMPERATURE (-100 TO 500 DEGREES C) AND PRESSURE (VACUUM TO 500 ATM). LEICENFROST, W. INTERN. J. HEAT MASS TRANSFER VOL. 7, 647-78 (APR 1964) 13 FIG 1 TAB 18 REF A3 B1 C2 D3 E1 F7 G1 64
*HELIUM, *GASEOUS, *THERMAL CONDUCTIVITY, PRESSURE EFFECT, A3 B1 C2 D3 E1
*ARGON, *CARBON DIOXIDE, *GASEOUS, *DIELECTRIC CONSTANT
- 22446 THE VISCOSITY OF HYDROGEN. HARRISON, D.J. GI. MIT. ROCKET PROPELLION ESTABL., MSL:MIT, TECH. MEMO. NO. 313 (FEB 1964) 9 PP 5 TAB 3 REF A3 D1 C6 D1 E2 F5 G5 64
*HYDROGEN, *GASEOUS, *LIQUID, *VISCOSITY, TEMPERATURE EFFECT, PRESSURE EFFECT
- 22450 — See Appendix
22481 EXPERIMENTS AND INVESTIGATION ON HEAT TRANSFER BY LIQUIDS AT OR NEAR THEIR CRITICAL POINTS. SCHMIDT, E. TECHNISCHE HOCHSCHULE, MUNCHEN, W. GERMANY, FINAL REPT. (JUL 1963) CONTR. NO. 462588-1906, 125 PP 41 FIG. 6 TAB 17 REF DDC AD 426 252 A3 B1 C2 D1 E1 F5 G5 63
*CARBON DIOXIDE, *LIQUID, *GASEOUS, SATURATED LIQUID, SATURATED VAPOR, *DENSITY, *REFRACTIVE INDEX, *CRITICAL POINT, *CRITICAL CONSTANTS, *PVT DATA, A6 B1 C2 D1 E1
*HEAT TRANSFER, MULTI-PHASE, PHASE TRANSITION, BOILING, CARBON DIOXIDE, CRITICAL POINT
- 22496 VISCOSITY OF LIQUID HYDROGEN AND DEUTERIUM. RUDENKO, N.S., KONAREVA, V.G. ZHUR. FIZ. KHIM. VOL. 37, NO. 12, 2761-62 (1963) 2 FIG 1 TAB 9 REF MF NO. 370 A3 B7 C6 D1 E1 F7 G1 63
*HYDROGEN, *DEUTERIUM, *LIQUID, *VISCOSITY, TEMPERATURE EFFECT
- 22497 THE VISCOSITY OF NEON-HELIUM AND ARGON-ARGON MIXTURES AT 2 DEGREES C AND 30 DEGREES C. KESTIN, J., NAGASHIMA, A. BROWN UNIV., PROVIDENCE, R.I., PROJ. SOLID REPT. NO. BRN-89 (OCT 1963) CONTR. NO. 4048 3623(CD), 36 PP 7 FIG 3 TAB 12 REF NBSA 864 12931 A5 B1 C2 D1 E1 F3 G5 63
*NEON, *HELIUM, *GASEOUS MIXTURE, *BINARY SYSTEM, *VISCOSITY, PRESSURE EFFECT, DENSITY, A3 B1 C2 D1 E1
*NEON, *ARGON, *GASEOUS MIXTURE, *BINARY SYSTEM, *VISCOSITY, PRESSURE EFFECT, DENSITY, A3 B1 C2 D1 E1
*NEON, *ARGON, *HELIUM, *GASEOUS, *VISCOSITY, PRESSURE EFFECT, DENSITY
- 22602 THE VAPOR PRESSURE OF 30 INORGANIC LIQUIDS BETWEEN 1 ATMOSPHERE AND THE CRITICAL POINT. EDWARDS, D.G. CALIF. UNIV., LAWRENCE RAD. LAB., LIVERMORE, REPT. NO. UCRL-7167 (JUN 1963) CONTR. NO. 47405-ENG-48, 51 PP A3 B1 C6 D1 E2 F8 G5 63
*LIQUID, *VAPOR PRESSURE, EQUATION, CALCULATION, *HYDROGEN, *HYDROGEN DEUTERIDE, *DEUTERIUM, *NITROGEN, *OXYGEN, *NEON, *ARGON, *KRYPTON, *XENON, BOILING TO CRITICAL POINT,
- 22613 THE THERMAL CONDUCTIVITY OF SOLID H2 IN THE GAMMA PHASE. BENFAN, R., HUGERS, S.J. PHYS. LETTERS VOL. 9, NO. 2, 115-17 (APR 1964) 2 FIG 11 REF MF NO. 379 A3 B1 C5 D3 E1 F7 G1 64
*SOLIDIFIED GAS, *THERMAL CONDUCTIVITY, *HELIUM, *HELIUM-4
- 22665 VAPOR PRESSURE RATIOS OF 14N14N, 14N15N AND 15N15N. JOHNS, T.F. PAC. PHYS. SOC. (LOANCA) VOL. 71, 701-03 (1958) 1 FIG 5 REF A3 B1 C7 D1 E1 F6 G1 58
*NITROGEN, *LIQUID, *VAPOR PRESSURE, *ISOTOPE
- 22666 CALCULATION OF HEAT CAPACITIES AND COMPRESSIBILITIES OF LIQUIDS FROM A RIGID SPHERE EQUATION OF STATE. YOSHI, S.J. (ATOMIC INTERNATIONAL, CANOGA PARK, CALIF.) J. CHEM. PHYS. VOL. 40, NO. 10, 3669-75 (MAY 1964) 4 FIG 5 TAB 7 REF A3 B1 C1 D1 E3 F6 G1 64
*SPECIFIC HEAT, *LIQUID, *GASEOUS, *ARGON, *HYDROGEN, *NITROGEN, *OXYGEN, *METHANE, *EXPANSIVITY, *COMPRESSIBILITY, *DENSITY, *EQUATION OF STATE, A3 B1 C1 D1 E3
*SPECIFIC HEAT, *EXPANSIVITY, *LIQUID, *NEON, *KRYPTON, *XENON, *ETHANE, *DENSITY, *CARBON MONOXIDE
- 22672 DENSITIES OF AMMONIA AND METHANE IN THE SOLID STATE. MANZHELI, V.G., TOLKACHEV, A.M. SOVIET PHYS. SOLID STATE VOL. 5, NO. 12, 2564-10 (JUN 1964) 4 FIG 2 TAB 20 REF (TRANS. FROM FIZ. TVEROGGO TEL. VOL. 5, NO. 12, 3413-19 (1963)) A3 B1 C7 D1 E1 F6 G1 63
*METHANE, *SOLIDIFIED GAS, *AMMONIA, *DENSITY, *EXPANSIVITY
- 22675 VISCOSITY OF ARGON-AMMONIA MIXTURES. INASAKI, M., KESTIN, J., NAGASHIMA, A. (BROWN UNIV., PROVIDENCE, R.I.) J. CHEM. PHYS. VOL. 40, NO. 10, 2988-95 (MAY 1964) 9 FIG 2 TAB 6 REF A3 B1 C2 D1 E1 F6 G1 64
*GASEOUS MIXTURE, *ARGON, *AMMONIA, *VISCOSITY, CONCENTRATION EFFECT
- 22676 THERMAL EXPANSION OF INERT GAS SOLIDS IN THE HARMONIC APPROXIMATION. LEECH, J.W., PEACHEY, C.J., REISSLAND, J.A. (UNIV. OF LONDON, QUEEN MARY COLLEGE) PHYS. LETTERS VOL. 10, NO. 1, 69-70 (MAY 1964) 1 FIG 5 REF A3 B1 C4 D3 E3 F7 G1 64
*KRYPTON, LATTICE PARAMETER, *PHYSICAL PROPERTY, *SOLIDIFIED GAS, *EXPANSIVITY
- 22677 HEAT CAPACITIES OF SOLID DEUTERIUM (33.1 PER CENT-87.2 PER CENT PARA) FROM 1.5 DEGREES K TO THE TRIPLE POINTS. HEATS OF FUSION AND HEAT CAPACITY OF LIQUID. GRENIER, G., WHITE, O. J. CHEM. PHYS. VOL. 40, NO. 10, 3015-30 (MAY 1964) 8 FIG 7 TAB 49 REF A3 B1 C5 D1 E1 F6 G1 64
*DEUTERIUM, *SPECIFIC HEAT, *ENTROPY, *PARADEUTERIUM, *SOLIDIFIED GAS, *LIQUID, *ORTHODUTERUM, SATURATION CURVE, A6 B1 C5 D1 E1
*DEUTERIUM, *ORTHODUTERUM, *PARA-CONVERSION, *PARA-ORTHODUTERUM, *SOLID
- 22687 VAKUUMERZEUGUNG DURCH KONDENSATION AN TIEFGEKÜHLTEN FLÄCHEN. II. DIE KONDENSATION VON STICKSTOFF UND WASSERSTOFF AN EINER DIFFUNDIERTEN KALIFLÄCHE. VACUUM PRODUCTION BY CONDENSATION ON LOW TEMPERATURE SURFACE. II. THE CONDENSATION OF NITROGEN AND HYDROGEN ON A DEFINITE COLD SURFACE. KLIPPING, G., MASCHER, W. Z. ANGEW. PHYS. VOL. 16, NO. 6, 471-76 (1964) 10 FIG 9 REF A6 B3 C5 D3 E1 F7 G1 64
*CRYSTALLINE, NITROGEN, *HYDROGEN, A3 B3 C5 D3 E1
*NITROGEN, *HYDROGEN, *VAPOR PRESSURE, *SOLIDIFIED GAS
- 22695 CALCULATION OF THE VAPOR PRESSURE AND HEATS OF VAPORIZATION AND SUBLIMATION OF LIQUIDS AND SOLIDS BELOW ONE ATMOSPHERE PRESSURE. VI. KRYPTON. ZIEGLER, W.T., YARBROUGH, D.W., MULLINS, J.C. GEORGIA INST. TECHNOL. ENG. EXPT. STA., ATLANTA, TECH. REPT. NO. 1 (JUL 1964) CONTR. NO. CST-1154, PROJ. NO. A-764, 44 PP 2 FIG 11 TAB 44 REF A3 B1 C6 D1 E3 F8 G5 64
*KRYPTON, *BOILING POINT, *TRIPLE POINT, *HEAT OF SUBLIMATION, *HEAT OF VAPORIZATION, *DENSITY, *SOLIDIFIED GAS, *LIQUID, *SPECIFIC HEAT, *VAPOR PRESSURE, EQUATION, CALCULATION, *HEAT OF FUSION
- 22697 ÜBER EINEN ZUSAMMENHANG ZWISCHEN KRITISCHEN KOFFIZIENTEN UND NULLPUNKTVOLUMEN VON FLÜSSIGKEITEN. RELATIONSHIP BETWEEN CRITICAL COEFFICIENTS AND ZERO-POINT VOLUME IN LIQUIDS. HECHT, G., HOLSTE, C. Z. PHYSIK. CHEM. (LEIPZIG) VOL. 224, NO. 5/6, 299-304 (1964) 1 TAB 35 REF MF NO. 664 A3 B3 C1 D1 E3 F7 G1 63
*CRITICAL CONSTANTS, *GASEOUS, *ARGON, *NEON, *KRYPTON, *XENON, *AMMONIA, *CARBON MONOXIDE, *CARBON DIOXIDE, *METHANE, *FLUORINE, *NITROGEN, *OXYGEN, *REFRIGERANT
- 22714 THE THERMAL CONDUCTIVITY OF NITROGEN AND ARGON. KEYES, F.G., VINES, R.G. (MIT, CAMBRIDGE) AIChE-ASME HEAT TRANSFER CONF., CLEVELAND, OHIO (AUG 9-12, 1964) PAPER NO. 64-HI-14, 7 PP 4 FIG 7 TAB 21 REF A3 B1 C7 D1 E1 F8 G9 64
*THERMAL CONDUCTIVITY, *GASEOUS, *NITROGEN, *ARGON, PRESSURE EFFECT
- 22805 EMPIRICAL HEAT CAPACITY EQUATIONS FOR IDEAL GASES. PATTERSON, D.J., VAN DYLEN, G.J. J. HEAT TRANSFER VOL. 85, NO. 3, 281-82 (AUG 1963) 3 TAB 2 REF A3 B1 C2 D1 E2 F6 G1 63
*SPECIFIC HEAT, EQUATION, CALCULATION, *GASEOUS, *OXYGEN, *NITROGEN, *CARBON DIOXIDE, *WATER, *INORGANIC FLUID, *NITRIC OXIDE
- 22807 ON THE STRUCTURE OF SOLID HELIUM. REESOP, W.H., TACONIS, K.W. PHYSICA VOL. 5, 161-65 (1938) 3 FIG 2 TAB 3 REF MF NO. 485 A3 B1 C5 D1 E1 F6 G1 38
*HELIUM, *SOLIDIFIED GAS, CRYSTAL STRUCTURE, *DENSITY, SPECTROSCOPIC DATA

- 22812 THERMAL CONDUCTIVITY OF MULTICOMPONENT MIXTURES OF INERT GASES. SAXENA, S.C. GANDHI, J.P. (RAJASTHAN UNIV., JAIPUR, INDIA) REV. MOD. PHYS. VOL. 35, NO. 4, 1022-32 (OCT 1963) 9 FIG 29 REF
- 22828 CA 60 6226H MF NO. 478 A3 B1 C8 D1 E3 F6 G1 63
 22828 THRU) *THERMAL CONDUCTIVITY, *HELIUM, *GASEOUS MIXTURE, *ARGON, *XENON, *NEON, *KRYPTON, *BINARY SYSTEM, *TERNARY SYSTEM
 22828 THRU) See Appendix
- 22920 ISOTHERMS OF DIATOMIC GASES AND THEIR BINARY MIXTURES. VII. ISOTHERMS OF HYDROGEN BETWEEN 2 DEGREE C AND 160 DEGREES C. ONNES, H. KAMERLINGH-BRAUN, C. COMPANS. PHYS. LAB. UNIV. LEIDEN NO. 1008, 13-15 (1907) TRANSLATED FROM VERLAG, AFDEEL. NATUURK. AKAD. WETENSCHAP. AMSTERDAM, 420-30 (30 NOV 1907) A3 B1 C8 D1 E1 F7 G1 67
- *HYDROGEN, *GASEOUS, *PVT DATA, ISOTHERM, *EQUATION OF STATE, SECOND VIRIAL COEFFICIENT, THIRD VIRIAL COEFFICIENT
- 22923 TRIPLE POINT PRESSURE OF HYDROGEN. MESSERLY, G.M. J. AM. CHEM. SOC. VOL. 63, 1486-87 (1941) MF NO. 572 A3 B1 C4 D1 E1 F6 G1 41
- *HYDROGEN, *TRIPLE POINT
- 22928 DENSITY OF GASEOUS NITROGEN. TANS, A.M.P. (STAATSMIJNEN LIMBURG, CELEEN, AETH.) INC. CHEMIST VOL. 39, NO. 9, 475 (1963) CA 60 2345C A3 B1 C7 D1 E2 F7 G1 63
- *NITROGEN, *GASEOUS, *DENSITY, *NOLOGRAM, *PRESSURE EFFECT, *TEMPERATURE EFFECT
- 22931 THERMAL CONDUCTIVITY OF SOLID HE4. WEIZOV-DELGIN, L.P. ZHUR. EKSPIL. I TEORET. FIZ. VOL. 46, NO. 5, 1976-27 (MAY 1964) A3 B7 C4 D3 E1 F6 G1 64
- *HELIUM, *HELIUM-4, *SOLIDIFIED GAS, *THERMAL CONDUCTIVITY, *TEMPERATURE EFFECT, *ANOMALY
- 22933 SUR LES CHALEURS SPECIFIQUES DE L'HELIUM SOLIDE ET LIQUIDE ET LA CHALEUR DE FUSION DE L'HELIUM. THE SPECIFIC HEAT OF SOLID AND LIQUID HELIUM AND THE HEAT OF FUSION OF HELIUM. KEESOM, W.H. PROC. INTERN. CONGR. REFRIG., 7TH CONGR., THE HAGUE-AMSTERDAM, 1936, 148-50. MF NO. 648 A3 B2 C6 D3 E1 F7 G2 36
- *HELIUM, *SOLIDIFIED GAS, *LIQUID, *SPECIFIC HEAT, *DENSITY, *HEAT OF FUSION, *TEMPERATURE EFFECT
- 22935 LOW-TEMPERATURE MEASUREMENT WITH HYDROGEN THERMOMETER. ADYAMA, S. KANDA, E. J. CHEM. SOC. JAPAN VOL. 55, 15-22 (1934) MF NO. 597 A3 B6 C7 D1 E1 F7 G1 34
- *OXYGEN, *BOILING POINT, *LIQUID, *NITROGEN
- 22936 COMPARISON OF PLATINUM-RHODIUM RESISTANCE THERMOMETERS WITH THE HELIUM GAS THERMOMETER FROM 11 DEGREES TO 300 DEGREES K. AN IMPROVED CRYSTAT. LOW TEMPERATURE STUDIES, NO. 2. BLUE, R.W. HICKS, J.F.G. J. AM. CHEM. SOC. VOL. 59, 1962-65 (1937) MF NO. 573 A3 B1 C6 D1 E1 F6 G1 37
- *HYDROGEN, *TRIPLE POINT, *BOILING POINT, A3 B1 C6 D1 E1
- *OXYGEN, *BOILING POINT
- 22938 THERMODYNAMIC STUDIES AT LOW TEMPERATURES. I. MEASUREMENT OF TEMPERATURES BETWEEN 12 AND 300 DEGREES K. STRELKOV, P.G. BOROVIK-ROMANOV, A.S. CRLOVA, N.P. ZH. FIZ. KHIM. VOL. 28, 345-52 (1954) MF NO. 668 A3 B7 C6 D1 E1 F7 G1 54
- *OXYGEN, *TRIPLE POINT, *SOLIDIFIED GAS, *PHASE TRANSITION PROPERTY, *SOLID-SOLID TRANSITION
- 22939 VORLAUFIGE BESTIMMUNG DER SCHMELZWARME UND DICHTEN DES HELIUMS ZWISCHEN 15 DEGREES UND 20 DEGREES ABS. PRELIMINARY DETERMINATION OF THE HEAT OF MELTING AND DENSITY OF HELIUM BETWEEN 15 AND 20 DEGREES ABSOLUTE. SIMON, F. STECKEL, F. Z. PHYSIK. CHEM. BODENSTEIN Festschrift, 737-44 (1931) MF NO. 588 A3 B3 C6 D1 E1 F7 G1 31
- *HELIUM, *SOLIDIFIED GAS, *LIQUID, *DENSITY, *HEAT OF FUSION
- 22955 THE MAXIMUM AND MINIMUM DENSITY AND HEAT OF EVAPORATION OF HELIUM. VAN LAAR, J.J. PROC. ACAD. SCI. AMSTERDAM VOL. 29, 1317-34 (1926) VERLAG. AKAD. WETENSCHAP. AMSTERDAM VOL. 35, 991-1004 (1926) MF NO. 586 A3 B1 C5 D1 E1 F7 G1 26
- *HELIUM, *LIQUID, *VAPOR PRESSURE, EQUATION, *EQUATION OF STATE, *DENSITY, SECOND VIRIAL COEFFICIENT, LAW OF RECTILINEAR DIAPHERS, *HEAT OF VAPORIZATION, CALCULATION
- 22966 AN EMPIRICAL EQUATION FOR HELIUM-4 VAPOR PRESSURE SCALE BETWEEN 1.36 AND 2.16 DEGREES K. SCURLOCK, R.G. WRAY, E.M. (UNIV. OF SOUTHAMPTON, ENGL.) CRYOGENICS VOL. 4, NO. 2, 104 (APR 1964) 1 FIG 3 REF A3 B1 C4 D3 E3 F7 G1 64
- *HELIUM, *HELIUM-4, *LIQUID, *VAPOR PRESSURE, EQUATION, *TEMPERATURE SCALE
- 22979 P-V-T RELATIONS FOR METHANE. OGDEN, D.R. HARRISON, R.M. MCCREY, R.T. MCCULLOUGH, J.P. (BARTLESVILLE PETROL. RES. CENTER, BUREAU OF MINES, BARTLESVILLE, OKLA.) J. CHEM. ENG. DATA VOL. 9, NO. 3, 358-63 (JUL 1964) 4 TAB 24 REF A3 B1 C4 D1 E1 F6 G1 64
- *GASEOUS, *METHANE, *PVT DATA, *EQUATION OF STATE, *COMPRESSIBILITY FACTOR, VIRIAL COEFFICIENT, SECOND VIRIAL COEFFICIENT, THIRD VIRIAL COEFFICIENT
- 22999 See Appendix
- 23001 EQUATION OF STATE OF GASES AT HIGH TEMPERATURES AND DENSITIES. ROWLINSON, J.S. (UNIV. OF WISCONSIN, MADISON) MOL. PHYS. VOL. 7, NO. 4, 349-61 (1963-64) CA 60 13904H A3 B1 C2 D E3 F7 G1 64
- *EQUATION OF STATE, *ARGON, *GASEOUS, Lennard-Jones Function
- 23031 THE CHAPMAN-COWLING SECOND APPROXIMATION TO THE VISCOSITY COEFFICIENT OF BINARY GAS MIXTURES. SAXENA, S.C. JOSHI, R.K. (RAJASTHAN UNIV., JAIPUR) INDIAN J. PHYS. VOL. 37, NO. 9, 479-85 (1963) CA 60 11399A A3 B1 C4 D E3 F7 G1 63
- *HELIUM, *XENON, *GASEOUS MIXTURE, *BINARY SYSTEM, *VISCOSITY
- 23032 GENERALIZED VISCOSITY DATA OF SATURATED HYDROCARBONS AT DIFFERENT TEMPERATURES AND PRESSURES. AGAEV, N.A. GULBEV, I.F. KHIM. I TEKHNOL. TOLIV I MASEL VOL. 6, NO. 6, 28-30 (1963) CA 60 11399C A3 B7 C8 D E3 F7 G1 63
- *VISCOSITY, *HYDROCARBON, *GASEOUS, *METHANE, *ETHANE, *PROPANE, *BUTANE, *LIQUID
- 23062 PHASE SEPARATION IN THE LIQUID MIXTURE OF NEON AND DEUTERIUM. ORCUTTER, J.P. HERMANS, L.J.F. KNAAP, H.F.P. BEENAKKER, J.J.M. PHYSICA VOL. 30, NO. 7, 1409-20 (JUL 1964) 6 FIG 5 TAB 16 REF REPR. FROM COMMUNS. KAMERLINGH ONNES LAB., UNIV. LEIDEN NO. 3398 A3 B1 C6 D1 E1 F6 G1 64
- *LIQUID MIXTURE, *NEON, *DEUTERIUM, FREEZING POINT, MELTING POINT, PHASE SEPARATION, CONCENTRATION EFFECT, TEMPERATURE EFFECT, PHASE DIAGRAM, VAPOR PRESSURE OF MIXTURE
- 23065 EXTREME VACUUM TECHNOLOGY (BELOW 10-13 TORR) AND ASSOCIATED CLEAN SURFACE STUDIES. BRYANT, P.J. GOSSELIN, C.M. TAYLOR, L.M. MICHEST RES. INST., KANSAS CITY, MO., REPT. NO. NASA CR-84 (JUL 1964) CONTR. NO. NASR-631061, 7C PP 27 FIG 4 TAB 29 REF A6 B1 C5 D3 E2 F3 G5 64
- *SORPTION, ADSORPTION, ADSORPTION ISOTHERM, THEORY, HELIUM, NEON, ARGON, HYDROGEN, NITROGEN, OXYGEN, A3 B1 C5 D3 E2
- *LIQUID, *HELIUM, *HYDROGEN, *NITROGEN, *DENSITY, CRYSTAL STRUCTURE, LATTICE PARAMETER, A7 B1 C5 D3 E2
- 23138 See Appendix
- 23160 THE HEAT CONDUCTIVITY OF GASEOUS 3HE AND 4HE BETWEEN 0.4 DEGREE AND 3.0 DEGREES K. FORKENS, R. TACONIS, K.W. DE BRUYN OUDERKERK, R. LOW TEMPERATURE PHYSICS LTD, PROC. 8TH INTERN. CONF. ON LOW TEMP. PHYS., LONDON, 1962, 34-36 (1963) BUTTERNORTHS, WASHINGTON, D.C., 4 FIG 6 REF A3 B1 C4 D3 E1 F7 G2 62
- *HELIUM, *GASEOUS, HELIUM 3, HELIUM 4, *THERMAL CONDUCTIVITY
- 23161 FREEZING AND LAMBDA CURVES OF 3HE-4HE MIXTURES. LE PAIR, C. TACONIS, K.W. DE BRUYN OUDERKERK, R. LOW TEMPERATURE PHYSICS LTD, PROC. 8TH INTERN. CONF. ON LOW TEMP. PHYS., LONDON, 1962, 37-8 (1963) BUTTERNORTHS, WASHINGTON, D.C., 3 FIG 7 REF A3 B1 C4 D3 E1 F7 G2 62
- *HELIUM, HELIUM 3-HELIUM 4, *LIQUID, LAMBDA TEMPERATURE, *MELTING CURVE, HELIUM 4
- 23165 PVT RELATIONS IN 4HE NEAR THE MELTING CURVE AND THE LAMBDA LINE. MILLS, R.L. GRILLY, E.R. LOW TEMPERATURE PHYSICS LTD, PROC. 8TH INTERN. CONF. ON LOW TEMP. PHYS., LONDON, 1962, 421-22 (1963) BUTTERNORTHS, WASHINGTON, D.C., 4 FIG 2 TAB 7 REF A3 B1 C5 D1 E1 F7 G2 62
- *HELIUM, *LIQUID, *SOLIDIFIED GAS, MELTING POINT, LAMBDA TEMPERATURE, *PHASE DIAGRAM, SOLID-SOLID TRANSITION, *MELTING CURVE, *PHASE TRANSITION PROPERTY, *THERMAL EXPANSION, VOLUME CHANGE, *COMPRESSIBILITY
- 23169 THE THERMAL CONDUCTIVITY OF SOLID 3HE AND SOLID 4HE. CRACKS, P.J. FAIRBANK, T.A. LOW TEMPERATURE PHYSICS LTD, PROC. 8TH INTERN. CONF. ON LOW TEMP. PHYS., LONDON, 1962, 417-18 (1963) BUTTERNORTHS, WASHINGTON, D.C., 3 FIG 8 REF A3 B1 C4 D3 E1 F7 G2 62
- *HELIUM, *SOLIDIFIED GAS, HELIUM 3, *THERMAL CONDUCTIVITY, HELIUM 4
- 23170 DENSITY MEASUREMENTS IN SOLID 4HE. KICER, J.N. LOW TEMPERATURE PHYSICS LTD, PROC. 8TH INTERN. CONF. ON LOW TEMP. PHYS., LONDON, 1962, 419-20 (1963) BUTTERNORTHS, WASHINGTON, D.C., 1 FIG 1 TAB 5 REF A3 B1 C5 D1 E1 F7 G2 62
- 23171 *HELIUM, *SOLIDIFIED GAS, *DENSITY, *PVT DATA, *PRESSURE EFFECT, 23172 *MELTING POINT, *PHASE TRANSITION PROPERTY 23173 See Appendix 23174 SPECIFIC HEAT OF SOLID HE4. FRANK, J.P. (NATL. RES. COUNCIL, OTTAWA, CAN.) PHYS. LETTERS VOL. 11, NO. 3, 208-10 (AUG 1964) 1 FIG 1 TAB 7 REF A3 B1 C5 D1 E1 F7 G1 64
- *HELIUM, *HELIUM-4, *SOLIDIFIED GAS, *SPECIFIC HEAT, *DENSITY, *DEBYE CONSTANT
- 23183 SURFACE TENSION OF LIQUID HYDROGEN ISOTOPES AND HYDROGEN-DEUTERIUM SOLUTIONS. GRIGORIEV, V.M. RUDEKHO, M.S. ZHUR. EKSPIL. I TEORET. FIZ. VOL. 47, NO. 1, 52-96 (JUL 1964) 3 FIG 2 TAB 13 REF A3 B7 C6 D1 E1 F7 G1 64
- *HYDROGEN, *HYDROGEN DEUTERIDE, *DEUTERIUM, *LIQUID, *SURFACE TENSION, *TEMPERATURE EFFECT
- 23185 THE SOLID STATE OF RARE GASES. POLLACK, G.L. (NATL. BUREAU OF STANDARDS, WASHINGTON, D.C.) REV. MOD. PHYS. VOL. 36, NO. 3, 748-91 (JUL 1964) 26 FIG 8 TAB 254 REF A3 B1 C5 D1 E2 F6 G1 64
- *ARGON, *SOLIDIFIED GAS, *DENSITY, LATTICE PARAMETER, *KRYPTON, *XENON, *NEON, *EXPANSIVITY, *TRIPLE POINT, *BOILING POINT, *CRITICAL CONSTANT, *MELTING CURVE, INTERMOLECULAR POTENTIAL, *LAW OF CORRESPONDING STATES, A3 B1 C5 D1 E2
- *ARGON, *NEON, *KRYPTON, *XENON, *SOLIDIFIED GAS, *VAPOR PRESSURE, *THERMAL CONDUCTIVITY, DEBYE CONSTANT, *SPECIFIC HEAT, *GRUNEISEN CONSTANT, ZERO POINT, ENERGY, *COMPRESSIBILITY
- 23186 SIGNIFICANT STRUCTURE THEORY OF SURFACE TENSION. REE, T.S. REE, T. EYRING, H. (UNIV. OF UTAH, SALT LAKE CITY) J. CHEM. PHYS. VOL. 41, NO. 2, 524-30 (JUL 1964) 2 FIG 3 TAB 34 REF A3 B1 C5 D1 E3 F6 G1 64
- *SURFACE TENSION, *LIQUID, THEORY, CALCULATION, *ARGON, *NEON, *NITROGEN, *OXYGEN, *METHANE, *CARBON MONOXIDE, *HYDROGEN, *HELIUM, *CHLORINE, *FLUORINE
- 23187 INTERMOLECULAR POTENTIAL FUNCTIONS AND THE SECOND AND THIRD VIRIAL COEFFICIENTS. SHERRWOOD, A.E. PRANSNITZ, J.M. (UNIV. OF CALIF., BERKELEY) J. CHEM. PHYS. VOL. 41, NO. 2, 429-37 (JUL 1964) 12 FIG 7 TAB 7 REF

- 23196 VAPOR PRESSURES OF SOME DEUTERATED ETHANES.
VAN HOOK, H.A. (UNIV. OF TENN., KNOXVILLE)
J. CHEM. PHYS. VOL. 40, NO. 12, 3727-28 (JUN 1964) 2 FIG 6 REF
MF NO. 881 A3 B1 C7 D3 E1 F6 G1 G4
*VAPOR PRESSURE, *DEUTERIO-COMPOUND, *ETHANE, *ISOMER, *LIQUID
- 23212 EIA MOLIER-I LG P-DIAGRAM FUER TRIFLUORMETHAN (R 13 N 11).
MOLLER-I, LG P-DIAGRAM FOR TRIFLUOROMETHANE (R13 N11).
ROPPUSCH, U.K.
KALTETECHNIK VOL. 16, NO. 3, 69-76 (MAR 1964) 7 FIG 13 REF
MF NO. 852 A3 B3 C4 D3 E2 F7 G1 G4
PRESSURE-ENTHALPY DIAGRAM, FREON 13, *REFRIGERANT, *VAPOR
PRESSURE, *LIQUID
- 23248 CORRELATION OF THE VISCOSITY OF LIGHT PARAFFIN HYDROCARBONS
AND THEIR MIXTURES IN THE LIQUID AND GASEOUS REGIONS.
GIDDINGS, J.G., KOBAYASHI, R. (RICE UNIV., HOUSTON, TEX.)
J. PETROL. TECHNOL. VOL. 16, NO. 6, 679-82 (JUN 1964) 5 FIG
1 TAB 26 REF
A3 B1 C8 D1 E2 F6 G1 G4
*GASEOUS MIXTURE, *VISCOSITY, *METHANE, *ETHANE, *PROPANE,
*HYDROCARBON, *DENSITY, *BINARY SYSTEM
- 23260 SINGLE-CRYSTAL STUDIES OF BETA-FLUORINE AND OF GAMMA-OXYGEN.
JORDAN, T.H., STREIB, H.E., SMITH, H.W., LIPSCOMB, W.H.
(HARVARD UNIV., CAMBRIDGE, MASS.)
ACTA CRYST. VOL. 17, NO. 6, 777-78 (JUN 1964) 1 FIG, 1 TAB
13 REF
MF NO. 821 A3 B1 C7 D1 E1 F7 G1 G4
*SOLIDIFIED GAS, *FLUORINE, *OXYGEN, CRYSTAL STRUCTURE,
SOLID-SOLID TRANSITION
- 23267 THE HEAT CAPACITY OF SOLID DEUTERIUM BETWEEN 0.3 DEGREES K
AND 13 DEGREES K.
GONZALEZ, C.C.
OHIO STATE UNIV., COLUMBUS, OH. D. THESIS (1951) 80 PP
14 FIG 8 TAB 39 REF (AVAIL. UNIVERSITY MICROFILMS,
ANN ARBOR, MICH., ORDER NO. 24105, \$2.75)
MF NO. 893 A3 B1 C4 D1 E1 F9 G7 G1
*DEUTERIUM, ORTHODEUTERIUM, *SOLIDIFIED GAS, *SPECIFIC HEAT,
DEBYE CONSTANT,
A2 B1 C4 D1 E1
ALUM., *INORGANIC SOLID, IRON, *SPECIFIC HEAT
- 23270 SPECIFIC HEAT OF LIQUID HELIUM NEAR THE LAMBDA POINT.
KELLENS, C.F.
DUKE UNIV., DURHAM, N. CAR., PH. D. THESIS (1960)
89 PP 12 FIG 60 REF (AVAIL. UNIVERSITY MICROFILMS,
ANN ARBOR, MICH., ORDER NO. 62-6033, \$2.75)
MF NO. 895 A3 B1 C4 D1 E1 F9 G7 G4
*HELIUM, *HELIUM-4, *LIQUID, SATURATED LIQUID, *SPECIFIC HEAT,
EQUATION, LAMBDA TEMPERATURE
- 23310 THE VISCOSITY OF NEON BETWEEN 25 DEGREES C AND 75 DEGREES C
AT PRESSURES UP TO 1800 ATMOSPHERES. CORRESPONDING STATES FOR
THE VISCOSITY OF THE NOBLE GASES UP TO HIGH DENSITIES.
TRAPPENIERS, A.J., ROTZEN, A., VAN DEN BERG, H.R.,
VAN OOSTER, J.
PHYSICA VOL. 30, NO. 5, 985-96 (MAY 1964) 5 FIG 10 TAB 29 REF
A3 B1 C8 D1 E1 F6 G1 G4
*NEON, *GASEOUS, *VISCOSITY, PRESSURE EFFECT, VERY HIGH
PRESSURE, DENSITY,
A3 B1 C8 D1 E2
*HELIUM, *NEON, *KRYPTON, *ARGON, *GASEOUS, *VISCOSITY,
PRESSURE EFFECT, COMPILATION
- 23311 THE THERMAL CONDUCTIVITY OF NEON BETWEEN 25 DEGREES C AND
75 DEGREES C AT PRESSURES UP TO 2600 ATMOSPHERES.
SEAGERS, J.V., HOLK, W.T., STIGTER, C.J.
PHYSICA VOL. 30, NO. 5, 1218-26 (MAY 1964) 4 FIG 6 TAB 21 REF
A3 B1 C8 D1 E1 F6 G1 G4
*NEON, *GASEOUS, *THERMAL CONDUCTIVITY, PRESSURE EFFECT,
VERY HIGH PRESSURE, DENSITY, EQUATION
- 23385 CONDENSED PHASE DIAGRAM OF THE SYSTEM ARGON-NITROGEN.
LONG, H.P., GIAPPOLO, F.S.
CHEM. ENG. PROGR. SYMP. SER. VOL. 59, NO. 44, 30-35 (1963)
6 FIG 1 TAB 8 REF
MF NO. 199-C A3 B1 C7 D1 E1 F6 G1 G4
*BINARY SYSTEM, *ARGON, *NITROGEN, *PHASE DIAGRAM,
*LIQUID MIXTURE, SOLID SOLUTION, *MELTING CURVE,
CONCENTRATION EFFECT, VAPOR PRESSURE OF MIXTURES, SOLID-
LIQUID EQUILIBRIUM, *PHASE EQUILIBRIUM
- 23386 THE SPECIFIC HEAT OF A NATURAL GAS AND ETHANE AT 69 AND
103 ATMOSPHERES.
HUIJSAK, K.L., FRONING, H.R., GOODIN, C.S.
CHEM. ENG. PROGR. SYMP. SER. VOL. 59, NO. 44, 88-94
(1963) 8 FIG 1 TAB 7 REF
A3 B1 C8 D1 E1 F6 G1 G4
*METHANE, *GASEOUS, *SPECIFIC HEAT, NATURAL GAS
- 23387 THERMODYNAMICS OF SOLUTIONS, VIII. AN IMPROVED EQUATION
OF STATE.
REGLICH, O., DUNLAP, A.K.
CHEM. ENG. PROGR. SYMP. SER. VOL. 59, NO. 44, 95-100
(1963) 10 FIG 1 TAB 32 REF
MF NO. 283 A3 B1 C7 D1 E3 F6 G1 G4
*EQUATION OF STATE, *GASEOUS, *PVT DATA, COMPRESSIBILITY
FACTOR, *NITROGEN, *METHANE, *WATER, *HYDROGEN SULFIDE,
*CARBON DIOXIDE, SULFUR DIOXIDE, *INORGANIC FLUID, *PROPANE
- 23390 SOLID-VAPOR EQUILIBRIUM OF THE CARBON DIOXIDE-NITROGEN
SYSTEM AT PRESSURES TO 200 ATMOSPHERES.
SMITH, G.G.
MICH. UNIV., ANN ARBOR, PH. D. THESIS (1963) 218 PP (AMSTH.
IN DISS. ABST. VOL. 24, NO. 12, 5300 (JUN 1964) (AVIL. UNIV.
MICROFILMS, ANN ARBOR, MICH., ORDER NO. 64-6712, \$2.85)
A3 B1 C8 D1 E1 F9 G7 G4
*CARBON DIOXIDE, *NITROGEN, *BINARY SYSTEM, *PHASE
EQUILIBRIUM, SOLID-VAPOR EQUILIBRIUM, PRESSURE EFFECT, ISOTHERM,
*EQUATION OF STATE
- 23392 CONCERNING THE EQUATION OF STATE OF HELIUM.
PREVODITELEV, A.S.
INZ. FIZ. ZHUR. VOL. 6, 64-76 (JUN 1963) 2 FIG 3 TAB 2 REF
(TRANS. BY JOINT PUBLICATIONS RES. SERVICE, WASHINGTON,
D.C.)
NASA 64-11971 A3 B1 C8 D1 E3 F3 G1 G4
*HELIUM, *GASEOUS, *EQUATION OF STATE
- 23393 THE REFRACTIVE INDICES OF LIQUID OXYGEN, NITROGEN, AND
HYDROGEN.
JCHAS, H.E., WILHELM, J.C. (UNIV. OF TORONTO, CAN.)
CAN. J. RES. VOL. 15A, NO. 7, 101-08 (JUL 1957) 7 FIG 3 TAB
9 REF
A3 B1 C6 D1 E1 F7 G1 G4
*OXYGEN, *NITROGEN, *HYDROGEN, *LIQUID, *REFRACTIVE INDEX,
TEMPERATURE EFFECT, *DENSITY
- 23394 SPECIFIC HEAT AND NUCLEAR RESONANCE IN CRYSTALLINE
HYDROGEN IN CONNECTION WITH NEW DATA ON ITS STRUCTURE.
DUMIN, S.S.
SOVIET PHYS. JETP VOL. 10, NO. 5, 1954-55 (MAY 1960) 10 REF
(TRANS. FROM ZHUR. EKSP. I TEORET. FIZ. VOL. 37, NO. 5,
1486-88, NOV 1959)
A3 B1 C5 D2 E3 F6 G1 G9
*HYDROGEN, *DEUTERIUM, *SOLIDIFIED GAS, CRYSTAL STRUCTURE,
*SPECIFIC HEAT
- 23397 KINETIC THEORY OF DENSE FLUIDS. XVII. THE SHEAR VISCOSITY.
LOHRY, B.A., RICE, S.A., GRAY, P.
J. CHEM. PHYS. VOL. 40, NO. 12, 3673-83 (1964) 6 FIG 6 TAB
30 REF
A3 B1 C7 D1 E1 F6 G1 G4
*ARGON, *LIQUID, *VISCOSITY
- 23399 AN EXPERIMENTAL DETERMINATION OF HELIUM DENSITY AT 3,200
PSIA AND 30 DEGREES R.
KRAVER, T.C., REICHENBACHER, F.W.,
AIRESEARCH MFG. CO., PHOENIX, ARIZ., ENG. REPT., NC.
AP-5076-K (AUG 1964) 21 PP 9 FIG 1 TAB
A3 B1 C6 D1 E1 F8 G9 G4
*HELIUM, *GASEOUS, *DENSITY, *VERY HIGH PRESSURE, *PVT DATA
- 23400 ARGON-OXYGEN-NITROGEN THREE COMPONENT SYSTEM EXPERIMENTAL
VAPOR-LIQUID EQUILIBRIUM DATA.
WILSON, G.M., SILVERBERG, P.M., ZELLNER, M.G.
AIR PRODUCTS AND CHEMICALS INC., ALLENTOWN, PA., REPT.
NC. APL-TCR-64-64 (APR 1964) CONTR. NO. AF 33-16571-8742,
314 PP 186 FIG 26 TAB 47 REF
A3 B1 C7 D1 E1 F8 G5 G4
*NITROGEN, *OXYGEN, *ARGON, *LIQUID, *VAPOR PRESSURE,
EQUATION,
A3 B1 C7 D1 E1
*OXYGEN, *ARGON, *NITROGEN, *GASEOUS MIXTURE, *LIQUID MIXTURE,
*BINARY SYSTEM, *TERNARY SYSTEM, *PHASE EQUILIBRIUM, LIQUID-
VAPOR EQUILIBRIUM, *DENSITY, *ENTHALPY, HEAT OF MIXING,
ACTIVITY COEFFICIENT, VAPOR PRESSURE OF MIXTURES
- 23419 A SMALL-ANGLE X-RAY SCATTERING STUDY OF CRITICAL OPALESCENCE
IN NITROGEN.
THOMPAS, J.E., SCHMIDT, P.W.,
J. AM. CHEM. SOC. VOL. 86, NO. 17, 1554-56 (SEPT 1964)
3 FIG 1 TAB 11 REF
A3 B1 C7 D1 E1 F6 G1 G4
*NITROGEN, *GASEOUS, *OPTICAL PROPERTY, SCATTERING,
X-RAY, *COMPRESSIBILITY
- 23435 THE DIFFERENCE IN VAPOR PRESSURE BETWEEN NORMAL AND EQUILIBRIUM
HYDROGEN. VAPOR PRESSURE OF NORMAL HYDROGEN BETWEEN 20 DEGREES
K AND 32 DEGREES K.
VAN LITTEDEKE, A., VERBEKE, O., THEEMES, F., STAES, K.,
DERCELPAP, J.
PHYSICA VOL. 30, NO. 6, 1238-44 (JUN 1964) 5 FIG 4 TAB 9 REF
A3 B1 C6 D1 E1 F6 G1 G4
*HYDROGEN, *NORMAL HYDROGEN, *PARAHYDROGEN, *LIQUID, *VAPOR
PRESSURE, EQUATION, TEMPERATURE EFFECT, *BOILING POINT
- 23446 EQUATIONS OF STATE FOR CARBON MONOXIDE AND CARBON DIOXIDE.
PREVODITELEV, A.S. (A.V. LOMONOSOV STATE UNIV., MOSCOW)
INZ.-FIZ. ZH., AKAD. NAUK SSSR VOL. 6, NO. 12, 101-06
(1963)
CA 60 9936C A3 B7 C8 D1 E3 F7 G1 G3
*CARBON MONOXIDE, *CARBON DIOXIDE, *GASEOUS, *EQUATION OF
STATE
- 23448 COEFFICIENT OF VISCOSITY OF ATOMIC HYDROGEN AND THE COEFFICIENT
OF MUTUAL DIFFUSION FOR ATOMIC AND MOLECULAR HYDROGEN.
BROWN, R., FOX, J.B. (UNIV. COLL., LONDON)
PRCC. ROY. SOC. (LONDON) VOL. A278, NO. 1373, 274-86 (1964)
CA 60 9938C A3 B1 C8 D1 E1 F6 G1 G4
*HYDROGEN, *GASEOUS, *VISCOSITY, *TRANSPORT PROPERTY,
DIFFUSION COEFFICIENT
- 23478 BEITRAG ZUR DEUTUNG DES CRYOTRAPPING-EFFEKTS. EXPLANATION
OF THE CRYOTRAPPING EFFECT.
KRAUS, H.,
MOLATSH. CHEM. VOL. 95, NO. 3, 733-38 (1964) 2 FIG 10 REF
A3 B1 C8 D1 E1 F6 G1 G4
*CRYOPUMPING, *ARGON,
A3 B3 C5 D3 E3
*ARGON, *SOLIDIFIED GAS, *HYDROGEN, *VAPOR PRESSURE, PARTIAL
PRESSURE
- 23482 TECHNICAL ASPECTS OF CATHO-PARAHYDROGEN CONVERSION.
SCHPAUGH, G.E., SINGLETON, A.M.,
AIR PRODUCTS AND CHEMICALS, INC., ALLENTOWN, PA.,
MANUSCRIPT 64-36 (1963) 40 PP 8 FIG 3 TAB 51 REF
A6 B1 C6 D1 E1 F8 G9 G3
*ORTHO-PARA CONVERSION, CATALYST, *HYDROGEN, *STORAGE,
A3 B1 C6 D1 E1
*HYDROGEN, *PARAHYDROGEN, *ENTHALPY, *GASEOUS
- 23500 PROPERTIES OF NITROGEN.
NAKAWAKA, K., PETRIZZI, P.J.,
AEROSOL-GENERAL CORP., SACRAMENTO, CALIF., REPT. NC.
922C-24-63 (DEC 1963) 25 PP 17 FIG 14 REF
A3 B1 C7 D1 E2 F5 G5 G3
*NITROGEN, *GASEOUS, *DENSITY, *VISCOSITY, *SPECIFIC HEAT,
*THERMAL CONDUCTIVITY, *LIQUID, *VAPOR PRESSURE, *HEAT OF
VAPORIZATION, *DIELECTRIC CONSTANT, *VELOCITY OF SOUND,
*COMPRESSIBILITY, *REFRACTIVE INDEX, SPECIFIC HEAT RATIO,
A3 B1 C7 D1 E2
*NITROGEN, *SOLIDIFIED GAS, *SPECIFIC HEAT, SOLID-SOLID
TRANSITION, *DIELECTRIC CONSTANT
- 23558 MOLECULAR STATISTICAL CALCULATION OF THE THERMODYNAMIC
PROPERTIES OF THERM GASES AMORPHOUS IN GRAPHITE.
KISELEV, A.V., POSKUS, D.P., AFRIMOVICH, A.I.,
ZH. FIZ. KHM. VOL. 38, NO. 6, 1514-22 (1964)
MF NO. 927 A3 B7 C1 D1 E3 F7 G1 G4
*HELIUM, *NEON, *ARGON, *KRYPTON, *XENON, *INTERNAL
ENERGY, *ENTHALPY, *SPECIFIC HEAT, *CHEMICAL POTENTIAL,
*GASEOUS

- 23589 SIMULTANEOUS MEASUREMENTS OF SURFACE TENSION AND VISCOSITY OF LIQUID ARGON BY MICROBALANCE.
SAJI, Y. KOBAYASHI, S. (OSAKA CITY UNIVERSITY, CSAKA, JAPAN)
CRYGENICS VOL. 4, NO. 3, 136-40 (JUN 1964) 8 FIG 1 TAB 1, REF
A3 B1 C7 D1 E1 F7 G1 64
*ARGON, *LIQUID, *DENSITY, *VISCOSITY, *SURFACE TENSION, SATURATED LIQUID
- 23595 AN EXPANDED PRINCIPLE OF CORRESPONDENCE FOR THE DETERMINATION OF QUANTITIES OF STATE.
ROPKUSCH, U.K.
ALLEN, HANNEY, VOL. 11, 41-50, 133-45 (1962-63) (TRANS. NY REDSTONE SCI. INFORM. CENTER, REDSTONE ARSENAL, ALA., TRANS. NO. RSIC-198, JUN 1964) 55 PP 21 FIG 3 TAB 50 REF
UDC AD 442 288 A3 B1 C1 D1 E3 F5 G1 64
*EQUATION OF STATE, *CRITICAL REGION, *ISOTHERM, *INTERNAL ENERGY, *ENTHALPY, *ENTROPY, *ARGON, *NITROGEN, *ETHANE, *NEON, *ETHANE, *CARBON DIOXIDE, *ETHYLENE, LAW OF CORRESPONDING STATES
- 23596 STATISTICAL SURFACE THERMODYNAMICS OF SIMPLE LIQUID MIXTURES.
ECKERT, C.A. PRASMITZ, J.W.
A.I.C.H.E. JOURNAL VOL. 10, NO. 5, 677-83 (SEPT 1964) 6 FIG 2 TAB 16 REF
A3 B1 C7 D3 E3 F6 G1 64
*LIQUID MIXTURE, *SURFACE TENSION, *BINARY SYSTEM, *ARGON, *NITROGEN, *METHANE, *OXYGEN,
A3 B1 C7 D3 E3
*LIQUID MIXTURE, *SURFACE TENSION, *BINARY SYSTEM, *METHANE, *CARBON MONOXIDE, *NITROGEN
- 23598 MEASUREMENT OF THE DENSITY OF NITROGEN AND HYDROGEN AT LOW TEMPERATURES AND HIGH PRESSURES BY THE METHOD OF HYDROSTATIC WEIGHING.
GOLLEBY, I.F. DOBROVOLSKII, C.A.
GAZ. PROM. VOL. 9, NO. 5, 43-47 (1964) 5 FIG 2 TAB 13 REF
PF NO. 830 A3 B7 C6 D1 E1 F7 G1 64
*HYDROGEN, *NITROGEN, *GASEOUS, *DENSITY, TEMPERATURE EFFECT
- 23617 LENNARD-JONES POTENTIAL PARAMETER VARIATION AS DETERMINED FROM VISCOSITY DATA FOR TWELVE GASES.
MILLIGAN, J.M., JR. LILEY, P.E.
AICHE-ASME HEAT TRANSFER CONF., CLEVELAND, OHIO (AUG 9-12, 1964) PAPER NO. 64-HT-20, 8 PP 4 FIG 2 TAB 52 REF
A3 B1 C1 D3 E3 F6 G9 64
*ARGON, *AIR, *VISCOSITY, *CARBON MONOXIDE, *METHANE, *NITROGEN, *OXYGEN, *NITRIC OXIDE, *ETHANE, *CARBON DIOXIDE, INTERMOLECULAR FORCE, *GASEOUS
- 23618 THE DETERMINATION OF THE CRITICAL DENSITY OF REAL GASES FROM THE DATA OF THE COEXISTENCE CURVE.
KAZAVCHINSKII, V.A.Z. KODASHYEV, V.I.
INZHEN. FIZ. ZHUR. AKADE. NAUK BELORUS.S.S.R. VOL. 5, NO. 4, 31-34 (1962)
A3 B7 C1 D3 E3 F7 G1 62
*CRITICAL CONSTANT, *GASEOUS, *CARBON DIOXIDE, *METHANE, *FREON 12, *FREON 13, CRITICAL DENSITY
- 23627 SPECIFIC HEAT AND SPEED OF SOUND DATA FOR IMPERFECT NITROGEN - II. T EQUALS 100 TO 2200 DEGREES K.
LEWIS, C.H. NEEL, C.A.
ARCLO ENG. DEVELOP. CENTER, ARCLO AF STATION, ILL., REPT. NO. AEC-TR-64-114 (JUN 1964) CONTR. NO. AF 4016001-1C00, 44 PP 3 TAB 17 REF
NASA N64 22606 PF NO. 219-T A3 B1 C1 D1 E3 F3 G5 64
*NITROGEN, *SPECIFIC HEAT, *GASEOUS, COMPRESSIBILITY FACTOR, *PVT DATA, *VELOCITY OF SOUND
- 23628 PRANDTL NUMBER MEASUREMENTS AND THERMAL CONDUCTIVITY, VISCOSITY PREDICTIONS FOR AIR, HELIUM AND AIR-HELIUM MIXTURES.
IBELF, W.C. NOVOTNY, J.L. ECKERT, F.R.G.
MINNESOTA UNIV., HEAT TRANSFER LAB., MINNEAPOLIS, FINAL REPT. NASA CR-55273 (DEC 1963) CONTR. NO. NASA-3, 49 PP 10 FIG 7 TAB 53 REF
NASA N64 25659 PF NO. 220-H A3 B1 C6 D1 E1 F3 G5 63
*AIR, *HELIUM, *GASEOUS, *GASEOUS MIXTURE, *THERMAL CONDUCTIVITY, *VISCOSITY, *SPECIFIC HEAT, PRANDTL NUMBER, *BINARY SYSTEM
- 23674 AN EQUATION OF STATE FOR NITROGEN AT HIGH DENSITIES.
BECKER, K.
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A3 B1 C6 D E F7 G1 71
*NITROGEN, *GASEOUS, *EQUATION OF STATE, HIGH PRESSURE
- 23787 THERMOCONDUCTIVITY OF NITROGEN AND HYDROGEN AT TEMPERATURE FROM 20 TO 195-DEG. AND PRESSURE FROM 1 TO 500 ATMOSPHERES.
GOLLEBY, I.F. KAL/SINA, M.V.
GAZ. PROM. VOL. 9, NO. 8, 41-43 (1964) 2 FIG 2 REF
PF NO. 217-F A3 B7 C7 D1 E1 F7 G1 64
*GASEOUS, *HYDROGEN, *NITROGEN, *THERMAL CONDUCTIVITY
- 23790 PROPERTIES OF NORMAL AND PARA-HYDROGEN.
STEWART, R.D. RODER, F.M. (MDS, BOULDER, COLO.)
TECHNOLOGY AND USES OF LIQUID HYDROGEN, CHAP. 11, 379-404 (SCOTT, R.B., DENTON, W.H. AND NICHOLS, C.P., EDS.) PERGAMON PRESS INC., NEW YORK (1964) 17 FIG 8 TAB 33 REF
A3 B1 C6 D1 E2 F1 G2 64
*HYDROGEN, *PARAHYDROGEN, *GASEOUS, *PVT DATA, *LIQUID, *ENTROPY, T-S DIAGRAM, *HEAT OF VAPORIZATION, *HEAT OF SUBLIMATION, *SPECIFIC HEAT, *THERMAL CONDUCTIVITY, *VELOCITY OF SOUND, *VISCOSITY, *SURFACE TENSION,
A3 B1 C6 D1 E2
*HYDROGEN, *PARAHYDROGEN, *TRIPLE POINT, *MELTING POINT, *CRITICAL CONSTANT, *LIQUID, SATURATED LIQUID, *DENSITY, *SOLIDIFIED GAS, *GASEOUS, SATURATED VAPOR, *VAPOR PRESSURE, *MELTING LINE
- 23791 THERMODYNAMIC PROPERTIES OF THE HELIUM-NITROGEN SYSTEM.
PENNINO, C.B. CANFIELD, F.B. KOBAYASHI, R. (COLUMBIA UNIV., NORMAN)
CRYGENIC ENG. CONF., PHILADELPHIA, PA. (AUG 18-21, 1964) PAPER NO. C-1, 10 FIG 2 TAB 20 REF
A3 B1 C6 D3 E3 F6 G9 64
*HELIUM, *NITROGEN, *GASEOUS MIXTURE, *BINARY SYSTEM, *ENTHALPY, *EQUATION OF STATE, *GASEOUS, *EQUATION OF STATE, JOULE-THOMSON COEFFICIENT
- 23794 PHASE EQUILIBRIA IN THE ARGON-HELIUM AND ARGON-HYDROGEN SYSTEMS FROM 60 DEGREES K TO 100 DEGREES K AND PRESSURES TO 120 ATMOSPHERES.
MULLINS, J.C. ZIEGLER, W.T. (GEORGIA INST. TECH., ATLANTA) CRYGENIC ENG. CONF., PHILADELPHIA, PA. (AUG 18-21, 1964) PAPER NO. C-4, 5 FIG 6 TAB 10 REF
A3 B1 C7 D1 E1 F6 G9 64
*ARGON, *HELIUM, *BINARY SYSTEM, *LIQUID MIXTURE, *GASEOUS MIXTURE, *PHASE EQUILIBRIUM, LIQUID-VAPOR EQUILIBRIUM, SOLID-LIQUID EQUILIBRIUM,
A3 B1 C7 D1 E1
*ARGON, *HYDROGEN, *BINARY SYSTEM, *LIQUID MIXTURE, *GASEOUS MIXTURE, *PHASE EQUILIBRIUM, LIQUID-VAPOR EQUILIBRIUM, SOLID-LIQUID EQUILIBRIUM,
A3 B1 C7 D1 E1
*ARGON, *MELTING CURVE
- 23817 QUANTUM STATISTICAL MECHANICS OF ISOTOPE EFFECTS.
OPPENHEIM, I. FRIEDMAN, A.S.
J. CHEM. PHYS. VOL. 35, NO. 1, 35-47 (JUL 1961) 7 FIG 6 TAB 20 REF
A3 B1 C6 D1 E3 F6 G1 61
*HYDROGEN, *DEUTERIUM, *TRITIUM, *HYDROGEN DEUTERIDE, *DEUTERIUM TRITIDE, *HELIUM, *HELIUM 3, *HELIUM 4, COMPRESSIBILITY FACTOR, *PVT DATA, *EQUATION OF STATE, *GASEOUS
- 23824 INTERMOLECULAR POTENTIAL FUNCTIONS FOR AR, CO, AND CYCLOHEXANE.
TAYLOR, W.L.
CINCINNATI UNIV., CHIC. PH.D. THESIS (1962) 280 PP (ANSTR. IN DISSERTATION ABSTR. VOL. 24, NO. 10, 4C14-15, 1964) (AVAIL. UNIVERSITY MICROFILMS, ANN ARBOR, MICH., ORDER NO. 62-4794)
CA 61 2502G A3 B1 C6 D1 E3 F6 G7 62
*ARGON, *CARBON MONOXIDE, CYCLOHEXANE, *ORGANIC FLUID, *GASEOUS, INTERMOLECULAR FORCE, LENNARD-JONES FUNCTION, *VISCOSITY
- 23829 DETERMINATION OF THE CRITICAL PRESSURE OF MONATOMIC ELEMENTS.
ZHIVONINOV, J.M. (POLYTECH. SCHOOL, BELGRADE, YUGOSLAVIA) J. PHYS. (PARIS) SUPPL. VOL. 25, 38A-40A (1964)
CA 61 2507E A3 B2 C1 D E3 F7 G1 64
*ARGON, *KRYPTON, *GASEOUS, *LIQUID, *CRITICAL CONSTANT, CRITICAL PRESSURE, *PHASE TRANSITION PROPERTY
- 23830 - See Appendix
- 24007 MORSE POTENTIAL PARAMETERS FOR HYDROGEN.
BATHINI, D.P. SAXENA, S.C.
INDIAN J. PURE APPL. PHYS. VOL. 2, NO. 8, 267-69 (AUG 1964) 3 FIG 1 TAB 15 REF
PF NO. 215-J A3 B1 C1 D1 E3 F7 G1 64
MORSE POTENTIAL, *HYDROGEN, *GASEOUS, *VISCOSITY, SECOND VIRIAL COEFFICIENT, DIFFUSION COEFFICIENT
- 24028 SURFACE TENSION OF PARA-HYDROGEN.
GRIGORIEV, V.N.
ZHUR. EKSP. I TEOR. FIZ. VOL. 47, NO. 2, 484-85 (AUG 1964) 2 FIG 3 REF
PF NO. 215-C A3 B7 C6 D3 E1 F7 G1 64
*PARAHYDROGEN, *SURFACE TENSION, *LIQUID
- 24066 TEMPERATURE DEPENDENCE OF THE DEBYE TEMPERATURES FOR THE THERMODYNAMIC FUNCTIONS OF SOLID ARGON.
TOSI, M.P. KUEBLER, J. (ARGONNE NATIONAL LAB.) AM. PHYS. SOC. MEETING, NEW YORK (JAN 22-25, 1964) PAPER NO. AE12 (ABSTR. IN BULL. AP. PHYS. SOC. VOL. 9, NO. 1, 14, 1964)
A3 B1 C6 D E3 F6 G9 64
*ARGON, *SOLIDIFIED GAS, *SPECIFIC HEAT, *ENTROPY, DEBYE CONSTANT, CALCULATION
- 24114 DEVIATIONS FROM VAN DER WAALS BEHAVIOR ON THE CRITICAL ISOBAR.
FISHER, M.L. (ROCKEFELLER INST., NEW YORK) J. CHEM. PHYS. VOL. 41, NO. 6, 1877-78 (SEPT 1964) 1 FIG 9 REF
A3 B1 C1 D3 E3 F6 G1 64
*EQUATION OF STATE, VAN DER WAALS, *COMPRESSIBILITY, *ARGON, CRITICAL PRESSURE, *CRITICAL REGION, *GASEOUS
- 24116 THERMODYNAMIC PROPERTIES AND MOLLIER CHART FOR HYDROGEN FROM 300 DEGREES K TO 20,000 DEGREES K.
KUBIN, R.F. PRESLEY, L.L. (JAMES RESEARCH CENTER) NATL. AERONAUT. SPACE ADMIN., SPEC. PUBL. NO. SP-3002 (1964) 63 PP 2 FIG 3 TAB 13 REF
A3 B1 C2 D1 E3 F3 G6 64
*HYDROGEN, COMPRESSIBILITY FACTOR, *ENTROPY, *ENTHALPY, *SPECIFIC HEAT, *GASEOUS, SPECIFIC HEAT RATIO, *VELOCITY OF SOUND
- 24240 SINGLE-CRYSTAL X-RAY DIFFRACTION STUDIES OF ALPHA N2 AND BEI N2.
JORDON, T.H. SMITH, P.H. ET AL.
J. CHEM. PHYS. VOL. 41, NO. 3, 756-59 (AUG 1964) 4 TAB 11 REF
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- 24243 ETUDE PAR DIFFRACTION NEUTRONIQUE DE L'OXYGENE SOLIDE. INVESTIGATION OF SOLID OXYGEN BY NEUTRON DIFFRACTION.
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J. PHYS. (PARIS) VOL. 25, NO. 5, 449-50 (1964) 1 FIG 13 REF
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- 24263 ZS OF METHANE AND ETHANE AT LOW PRESSURE.
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TEXAS UNIV., AUSTIN) PETROL. REFINER VOL. 43, NO. 10, 177-80 (OCT 1964) 4 FIG 4 TAB 22 REF
A3 B1 C6 D1 E1 F6 G1 64
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- 24274 RESEARCH STUDY OF THERMODYNAMIC SYSTEMS FOR TEMPERATURE CONTROL OF HEAT SINKS IN SPACE-SIMULATION CHAMBERS.
HOGG, C.H. JR. YCCE-ROBERTSON, W. ET AL.
CRYOGENIC, INC., COLUMBUS, OHIO, REPT. NO. AEC-TR-64-121 (JUN 1964) CONTR. NO. AF46(603)-1C37 112 PP 36 FIG 6 TAB
NASA N64 21718 PF NO. 220-C A6 B1 C1 D E2 F3 G5 64
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*VAPOR PRESSURE, *HYDROGEN, *NEON, *NITROGEN, *OXYGEN, *CARBON MONOXIDE, *METHANE, *WATER, *CARBON DIOXIDE, *SOLIDIFIED GAS,

- 24286 COMPARATIVE PROPERTIES OF HELIUM-3 AND HELIUM-4.
KELLY, D.P., HAUHACH, W.J., MANSATO RES. CORP., MIAMI SHIP, CHIC, REPT. NC.
MLM-1161 (JUN 1964) CNTR. NO. A1-33-1-GEN-5, 56 PP 50 FIG
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*HELIUM, *HELIUM-3, *HELIUM-4, *LIQUID, *SPECIFIC HEAT,
*SOLIDIFIED GAS, *VAPOR PRESSURE, *HELIUM 3-HELIUM 4, *PHASE
DIAGRAM, *MELTING CURVE, *HEAT OF FUSION, *HEAT OF
VAPORIZATION, *VISCOSITY, *DENSITY, A3 B1 C4 D1 E2
*HELIUM, *HELIUM-3, *HELIUM-4, *THERMAL EXPANSION, *THERMAL
CONDUCTIVITY, *SOLIDIFIED GAS, *GASEOUS, *VELOCITY OF SOUND,
*COMPRESSIBILITY, *ENTROPY, *SURFACE TENSION, *LAMBDA
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- 24287 MESSUNG DER VISKOSITÄTEN VON FLÜSSIGEN NEON, ARGON UND
STICKSTOFF. MEASUREMENT OF VISCOSITY OF LIQUID NEON, ARGON
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(1963) 1 FIG 1 TAB 5 REF MF NO. 221-J A3 B3 C7 D1 E1 F7 G1 63
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- 24297 REDUCED THERMAL CONDUCTIVITY CHART FOR METHANE.
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LONDON, 1957, 163-68 (PUBL. 1958) A3 B1 C7 D1 E3 F7 G2 48
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- 24298 AN INVESTIGATION OF THE THERMODYNAMIC PROPERTIES OF
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VUKALOVICH, P.P., NOVIKOV, I.I.
PRCC. CNFR. THERMODYN. TRANSPORT PROPERTIES FLUIDS,
LONDON, 1957, 91-110 (PUBL. 1958) A3 B1 C2 D1 E3 F7 G2 58
*SPECIFIC HEAT, *SPECIFIC HEAT RATIO, *AIR, *NITROGEN,
*OXYGEN, *CARBON MONOXIDE, *GASEOUS, *EQUATION OF STATE,
*ENTROPY
- 24299 THE THERMODYNAMIC PROPERTIES OF NORMAL FLUIDS.
PITZER, K.S., CURLE, R.F.
PRCC. CNFR. THERMODYN. TRANSPORT PROPERTIES FLUIDS, LONDON,
1957, 1-9 (PUBL. 1958) A3 B1 C2 D1 E3 F7 G2 58
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- 24300 — See Appendix
- 24302 MEASUREMENT OF ULTRASONIC VELOCITY IN COMPRESSED FLUIDS AND
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*ARGON, *ETHANE, *PROPANE, *NITROGEN, *ULTRASONIC, *SPECIFIC
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- 24307 CERTAIN FEATURES OF THE VISCOSITY AND HEAT CONDUCTIVITY
OF LIQUIDS AND GASEOUS MATERIALS.
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MF NO. 500-A A3 B1 C2 D1 E3 F6 G1 57
*CARBON DIOXIDE, *LIQUID, *GASEOUS, *VISCOSITY, *CRITICAL
REGION, *THERMAL CONDUCTIVITY
- 24308 COMPRESSIBILITY OF SOLIDIFIED GASES TO 20,000 KG/CM².
STEWART, J.W.
LOW TEMPERATURE PHYSICS AND CHEMISTRY, 522-25 (PRCC.
5TH INTERNATL. CONF., J. R. DILLINGER, ED.) UNIVERSITY
OF WISCONSIN PRESS (1958) A3 B1 C1 D1 E1 F6 G2 58
*SOLIDIFIED GAS, *COMPRESSIBILITY, *ETHANE, *METHANE,
*PROPANE, *ETHYLENE, *PROPYLENE, *TETRAFLUOROMETHANE, *MOLAR
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- 24311 THE SUTHERLAND MODEL FOR THE VISCOSITY OF GASES.
EL AADI, M., ABU ZEID, F.
J. PHYS. CHEM. VOL. 56, 1107-09 (1952) A3 B1 C2 D1 E3 F6 G1 55
*VISCOSITY, *GASEOUS, *HYDROGEN, *SUTHERLAND CONSTANT, *HELIUM,
*NEON, *ARGON, *KRYPTON, *XENON, *NITROGEN, *OXYGEN, *METHANE,
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- 24312 WÄRMELEITFÄHIGKEIT, ZÄHIGKEIT UND DIFFUSION IN DER GASPHASE VI.
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TEN. THERMAL CONDUCTIVITY, VISCOSITY, AND DIFFUSION IN THE
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*GASEOUS MIXTURE, *BINARY SYSTEM, *THERMAL CONDUCTIVITY,
*VISCOSITY, *DIFFUSION COEFFICIENT, *ARGON, *HELIUM, *HYDROGEN,
*NEON, *NITROGEN, *METHANE, *OXYGEN, *CARBON MONOXIDE,
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- 24313 SOME REMARKS CONCERNING THE VISCOSITY OF LIQUID HYDROGEN AND
DEUTERIUM IN CONNECTION WITH THE THEORY OF ELLER-ELIOT.
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PHYSICA VOL. 8, 522-24 (1941) MF NO. 501-G A3 B1 C1 D1 E3 F6 G1 41
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- 24314 RELATIONSHIP OF THERMODYNAMIC PROPERTIES TO MOLECULAR STRUCTURE.
HEAT CAPACITIES AND HEAT CONTENTS OF HYDROCARBON VAPORS.
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*SPECIFIC HEAT, *ENTHALPY, *NITROGEN, *GASEOUS, *HYDROGEN,
*OXYGEN, *CARBON MONOXIDE, *CARBON DIOXIDE, *AMMONIA, *METHANE,
*ETHANE, *PROPANE, *HYDROCARBON, *BUTANE
- 24315 DIE SPEZIFISCHEN WÄRMEN DER GASE ALS HILFSGRÖßEN ZUR
BERECHNUNG VON GLEICHGEWICHTEN. THE SPECIFIC HEATS OF
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ARCH. ELEKTROTECHN. VOL. 9, 189-96 (1935) MF NO. 500-X A3 B3 C2 D1 E2 F7 G1 35
*SPECIFIC HEAT, *HYDROGEN, *OXYGEN, *CARBON DIOXIDE, *CARBON
MONOXIDE, *NITROGEN, *NITROUS OXIDE, *NITRIC OXIDE, *METHANE,
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- 24316 DIE MITTLEREN SPEZIFISCHEN WÄRMEN DER ZWEIATOMIGEN GASE
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MEAN SPECIFIC HEATS OF DIATOMIC GASES (NITROGEN, CARBON MONOXIDE,
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*HYDROGEN, *CARBON DIOXIDE, *GASEOUS, *EQUATION
- 24317 THE THERMODYNAMICS OF IDEAL CRYSTALS.
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*ARGON, *EQUATION OF STATE, *SOLIDIFIED GAS, *SPECIFIC HEAT
- 24318 CHALEUR SPECIFIQUE DES GAZ. THE SPECIFIC HEAT OF GASES.
LOURIE, H.
CHALEUR IND. VOL. 11, 423-35 (1930) MF NO. 501-M A3 B2 C2 D1 E1 F7 G1 30
*SPECIFIC HEAT, *GASEOUS, *AIR, *NITROGEN, *OXYGEN,
*CARBON DIOXIDE, *VELOCITY OF SOUND, *HYDROGEN
- 24319 DETERMINATION DE LA VISCOSITE DE L'AZOTE COMPRIME JUSQU'A
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*VISCOSITY, *NITROGEN, *GASEOUS, *PRESSURE EFFECT, *HIGH
PRESSURE
- 24320 ON THE VISCOSITY OF LIQUID HELIUM IN THE NEIGHBOURHOOD
OF THE LAMBDA-POINT.
KEESOM, W.H., KEESOM, P.F.
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ONNES LAB. UNIV. LEIDEN NO. 260E, 1941) MF NO. 501-I A3 B1 C5 D3 E1 F6 G1 41
*HELIUM, *VISCOSITY, *LIQUID, *LAMBDA TEMPERATURE
- 24321 THE EQUATION OF STATE FOR HELIUM IN THE INTERMEDIATE REGION
OF TEMPERATURE.
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SER. A, 379-86 (1934) MF NO. 501-J A3 B1 C7 D1 E2 F7 G1 34
*HELIUM, *EQUATION OF STATE, *GASEOUS
- 24322 MEASUREMENT OF VISCOSITIES OF GASES AT HIGH PRESSURE. II.
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IWASAKI, H.
SCI. REPTS. RESEARCH INSTS. TOKYO UNIV. SER. A VOL. 6, 296-307
(1954) MF NO. 501-F A3 B1 C2 D1 E1 F7 G1 54
*VISCOSITY, *GASEOUS MIXTURE, *GASEOUS, *HYDROGEN, *NITROGEN,
*DENSITY, *PRESSURE EFFECT
- 24323 SPECIFIC HEAT CHARTS FOR GASES.
HALFERDAHL, A.C.
CHEM. AND MET. ENG. VOL. 37, 686-87 (1930) MF NO. 501-G A3 B1 C2 D3 E2 F6 G1 30
*SPECIFIC HEAT, *GASEOUS, *HYDROGEN, *NITROGEN, *OXYGEN,
*CARBON MONOXIDE, *CHLORINE, *CARBON DIOXIDE, *AMMONIA,
*METHANE
- 24324 THERMAL CONDUCTIVITY OF GASES AT HIGH PRESSURES.
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*THERMAL CONDUCTIVITY, *GASEOUS, *PRESSURE EFFECT, *NITROGEN,
*METHANE, *ETHYLENE, *PROPANE, *VISCOSITY
- 24325 ON THE DISTILLATION OF LIQUID AIR, AND THE COMPOSITION OF
THE GASEOUS AND LIQUID PHASES.
BALY, C.C.
PRCC. PHYS. SOC. (LONDON) VOL. 17, 157-69 (1900) MF NO. 501-M A6 B1 C7 D1 E1 F6 G1 00
*SEPARATION, *AIR, A3 B1 C7 D1 E1
*OXYGEN, *NITROGEN, *VAPOR PRESSURE, *LIQUID, *SATURATED
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- 24326 CONDUCTIBILITE THERMIQUE, VISCOSITE ET DIFFUSION EN PHASE
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ET LEURS MELANGES. THERMAL CONDUCTIVITY, VISCOSITY AND DIFFUSION
IN THE GAS PHASE. VII. HYDROGEN, DEUTERIUM, HELIUM NEON, AND
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ANDRUSSOW, L.
J. CHIM. PHYS. VOL. 45, 599-604 (1952) MF NO. 500-S A3 B2 C2 D1 E2 F7 G1 52
*SPECIFIC HEAT, *GASEOUS, *HYDROGEN, *HELIUM, *DEUTERIUM,
*NEON, *HYDROGEN DEUTERIDE, *TRANSPORT PROPERTY, *DIFFUSION,
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- 24327 EINE NEUE THERMISCHE ZUSTANDSGLEICHUNG DER GASE UND
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HIPPAN, J.
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VOL. 162, 787-97 (1953) MF NO. 500-J A3 B3 C7 D1 E3 F7 G1 53
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*CARBON DIOXIDE
- 24328 THERMAL PROPERTIES OF SATURATED OXYGEN AND NITROGEN.
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INZENER. FIZ. ZHUR. VOL. 6, 86-91 (1964) MF NO. 500-M A3 B7 C7 D1 E2 F7 G1 64
*OXYGEN, *NITROGEN, *LIQUID, *VAPOR PRESSURE, *GASEOUS,
*SATURATED LIQUID, *SATURATED VAPOR, *DENSITY, *EQUATION, *TRIPLE
POINT-TO-CRITICAL POINT, *HEAT OF VAPORIZATION
- 24330 — See Appendix

- 24331 ZÄHIGKEIT VON STOFFEN IM FLÜSSIGEN UND GASFÖRMIGEN SATTLINGSZUSTAND. MESSUNG DER ZÄHIGKEIT VON FLÜSSIGEM STICKSTOFF. VISCOSITY OF SUBSTANCES IN LIQUID AND SATURATED VAPOR STATE. MEASUREMENT OF VISCOSITY OF LIQUID NITROGEN. FRITZ, N. MEINENHOFER, J. Z. GES. KALT-IND. VOL. 49, 41-46 (1942) 8 FIG 5 TAB MF NO. 500-H A3 B3 C7 D1 E1 F7 G1 42
*NITROGEN, *LIQUID, *VISCOSITY
- 24332 CHALEUR SPECIFIQUE DES GAZ. SPECIFIC HEAT OF GASES. LOURIE, M. CHALEUR IND. VOL. 11, 361-70 (1930) 8 FIG 2 TAB MF NO. 500-A A3 B2 C7 D1 E1 F7 G1 30
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- 24336 DENSITY OF H₂-D₂ LIQUID SOLUTIONS. GRIGOR'EV, V. N. RUCENKO, N. S. UKR. FIZ. ZHUR. VOL. 7, NO. 7, 737-39 (JUL 1962) 2 FIG 1 TAB 7 REF (TITLE IN MONTHLY INDEX RUSS. ACCESS. VOL. 15, NO. 12, 3226, MAR 1963) MF NO. 220-C A3 B7 C6 D1 E1 F7 G1 62
*HYDROGEN, *DEUTERIUM, *LIQUID MIXTURE, *BINARY SYSTEM, *DENSITY, *CONCENTRATION EFFECT
- 24337 A REDUCED EQUATION OF STATE FOR GASEOUS AND LIQUID SUBSTANCES. COSTOLNICK, J. J. THCCS, G. A. I. CH. E. JOURNAL VOL. 5, NO. 2, 269-72 (MAR 1963) 5 FIG 27 REF MF NO. 202-P A3 B1 C7 D1 E3 F6 G1 63
*ARGON, *GASEOUS, *LIQUID, *EQUATION OF STATE, *PVT DATA, *DENSITY, *COMPRESSIBILITY FACTOR, *REDUCED VARIABLE
- 24339 THE SURFACE TENSION OF LIQUID HELIUM-4 AT THE LOW TEMPERATURES AND NEAR LAMBDA-POINT. NARAHARA, YOSHIMASA (UNIV. OF PENNSYLVANIA, PHILADELPHIA) PENN. UNIV., PHILADELPHIA, PH. D. THESIS (1963) 140 PP (ABSTR. IN DISSERTATION ABSTR. VOL. 24, 1671, 1963) (AVAIL. UNIV. MICROFILMS, ANN ARBOR, MICH., ORDER NO. 63-10741) CA 60 9937E MF NO. 221-L A3 B1 C4 D1 E1 F9 G7 63
*HELIUM, *HELIUM-4, *LIQUID, *SURFACE TENSION, *LAMBDA TEMPERATURE, *TEMPERATURE EFFECT, *HELIUM 3-HELIUM 4
- 24346 A CERTAIN EXCESS PROPERTY OF THE LIQUID SYSTEM OXYGEN-ARGON. SAJI, Y. OKUDA, T. (OSAKA CITY UNIV., JAPAN) CRYOGENIC ENG. CONF., PHILADELPHIA, PA. (AUG 18-21, 1964) PAPER NO. D-7, 19 FIG 11 TAB 17 REF A3 B1 C7 D1 E1 F8 G9 64
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- 24348 NEW VALUES OF THERMAL CONDUCTIVITY AND SPECIFIC HEAT AT DIFFERENT TEMPERATURES FOR A SERIES OF GASES. SEINFLEBEN, FERNHANN Z. ANGEW. PHYS. VOL. 17, NO. 2, 86-87 (1964) CA 61 3756C A3 B3 C8 D E3 F7 G1 64
*CARBON DIOXIDE, *AIR, *ARGON, *KRYPTON, *METHANE, *ETHYLENE, *ETHANE, *PROPANE, *BUTANE, *HYDROCARBON, *METHYL CHLORIDE, *GASEOUS, *SPECIFIC HEAT, *THERMAL CONDUCTIVITY
- 24390 THE PROPERTIES AND HANDLING OF FLUORINE. KLEINBERG, S. TOMPKINS, J. F., JR. ET AL. AIR PRODUCTS AND CHEMICALS, INC., ALLENTOWN, PA., REPT. NO. ASD-10R-62-273 (OCT 1963) CONTR. NO. AF 33(616)-6519, 131 PP 1 FIG 57 TAB 75 REF A3 B1 C7 D1 E2 F5 G5 63
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- 24414 DEN AND BUBBLE ISOTHERM CALCULATIONAL METHOD FOR BINARY SYSTEM PHASE AND VOLUME-TYPE BEHAVIOR. RODEWALD, A. C. DAVIS, J. A. KURATA, F. (UNIV. OF KANSAS, LAWRENCE) IND. ENG. CHEM. FUNDAMENTALS VOL. 3, NO. 1, 8-14 (1964) CA 60 4856G A3 B1 C7 D1 E1 F6 G1 64
*HELIUM, *NITROGEN, *BINARY SYSTEM, *SOLUTION, *SOLUBILITY, *PHASE EQUILIBRIUM, *LIQUID MIXTURE, *SATURATED LIQUID, *NITROGEN, *COMPRESSIBILITY FACTOR, *SATURATED VAPOR, *ISOTHERM, *GASEOUS MIXTURE
- 24467 RESEARCH ON EXPERIMENTAL HEAT OF VAPORIZATION AND ENTHALPY MEASUREMENTS OF OXYGEN-NITROGEN-ARGON MIXTURES. LIEN, W. H. WILSON, G. P. AIR PRODUCTS AND CHEMICALS, INC., ALLENTOWN, PA., QUART. PROGR. REPT. NO. 2 (OCT 1964) CONTR. NO. AF 33(615)-1332, 30 P 8 FIG 21 TAB 6 REF A3 B1 C7 D1 E1 F8 G5 64
*NITROGEN, *GASEOUS, *ENTHALPY, *AIR, *OXYGEN, *IMPURITY EFFECT, *ARGON, *AIR, *HEAT OF VAPORIZATION
- 24498 L'ECHELLE DE TEMPERATURE DU N.P.L. DANS LE DOMAINE 10-90 DEGRES K. THE TEMPERATURE SCALE OF THE N.P.L. IN THE REGION 10 TO 90 DEGREES K. BARBER, C. H. COMITE CONSULTATIF THERM. COMITE INTERN. POIDS MESURES, 6E SESSION, PARIS, 1962, 19-21 (1962) A7 B2 C6 D1 E2 F7 G2 62
*THERMOMETRY, *SCALE, *BOILING POINT, *OXYGEN, *HYDROGEN, *LIQUID
- 24542 APPROXIMATE FORMULAS FOR VISCOSITY AND THERMAL CONDUCTIVITY OF GAS MIXTURES. BRCKMAN, R. S. NATL. AERONAUT. SPACE ADMIN. TECH. NOTE NO. D-2502 (NOV 1964) 20 PP NASA 64 33084 A3 B1 C6 D1 E3 F3 G6 64
*VISCOSITY, *GASEOUS MIXTURE, *BINARY SYSTEM, *TERNARY SYSTEM, *HELIUM, *NEON, *ARGON, *THERMAL CONDUCTIVITY, *GASEOUS MIXTURE, *HELIUM, *KRYPTON, *XENON, *BINARY SYSTEM, *TERNARY SYSTEM
- 24564 CORRELATIONS AND EQUATIONS USED IN CALCULATING THE THERMODYNAMIC PROPERTIES OF HALOGENATED HYDROCARBONS. MARTIN, J. J. THERMODYNAMIC TRANSPORT PROPERTIES GASES, LIQUIDS, SOLIDS, PAPERS SYMPOSIUM, LAFAYETTE, INDIANA (1959) 12 PP (ABSTR. IN SULL. INTERN. INST. REFRIG. VOL. 41, NO. 1, 126, 1961) A3 B1 C6 D E F8 G2 59
*THERMODYNAMIC PROPERTY, *ORGANIC FLUID, *ORGANIC FLUID, *REFRIGERANT, *CALCULATION
- 24583 COMPARISON OF VARIOUS LIQUID THEORIES WITH THE SIGNIFICANT STRUCTURE THEORY. REE, T. S. REE, Y. EYRING, M. (UNIV. UTAH, SALT LAKE CITY) J. PHYS. CHEM. VOL. 68, NO. 5, 1163-68 (1964) CA 61 57C A3 B1 C1 D E3 F6 G1 64
*LIQUID, *THEORY, *SATURATED LIQUID, *RARE GAS, *NITROGEN, *ENTROPY, *SPECIFIC HEAT, *COMPRESSIBILITY, *THERMAL EXPANSION, *CALCULATION
- 24609 LIQUID-HELIUM RESEARCH IN THE ROYAL SOCIETY MOND LABORATORY. ATKINS, K. CHASE, C. E. HOLLISS-HALLETT, A. C. NATL. BUR. STANDARDS CIRC. NO. 519, 131-37 (PROC. NBS SEMICENTENNIAL SYMPOSIUM ON LOW TEMPERATURE PHYSICS) 1952 A3 B1 C5 D3 E1 F2 G6 52
*HELIUM, *HELIUM-4, *HELIUM II, *LIQUID, *VELOCITY OF SOUND, *LAMBDA TEMPERATURE, *SUPERFLUID
- 24610 PROPAGATION OF SECOND SOUND BELOW 1 DEGREE K. OSBORN, D. V. NATL. BUR. STANDARDS CIRC. NO. 519, 139-44 (PROC. NBS SEMICENTENNIAL SYMPOSIUM ON LOW TEMPERATURE PHYSICS) 1952 A3 B1 C4 D3 E1 F2 G6 52
*HELIUM, *VELOCITY OF SOUND, *LIQUID, *SECOND SOUND, *HELIUM II
- 24611 PRESSURE DEPENDENCE OF SECOND SOUND VELOCITY IN LIQUID HELIUM II. MAURER, R. L. HEALIN, P. A. NATL. BUR. STANDARDS CIRC. NO. 519, 145-50 (PROC. NBS SEMICENTENNIAL SYMPOSIUM ON LOW TEMPERATURE PHYSICS) 1952 A3 B1 C4 D3 E1 F2 G6 52
*HELIUM, *HELIUM I, *LIQUID, *VELOCITY OF SOUND, *SECOND SOUND, *SUPERFLUID, *PRESSURE EFFECT
- 24650 THE LIQUEFACTION OF HYDROGEN. PART 382. LARGE-SCALE HYDROGEN LIQUEFACTION FACILITIES. VANDER AREND, P. C. CHELTON, D. B. (NBS, BOULDER, COLO.) TECHNOLOGY AND USES OF LIQUID HYDROGEN, CHAP. 3, 79-105 (SCCT, R. B., DENTON, W. P. AND NICHOLLS, C. M., EDS.) PERGAMON PRESS INC., NEW YORK (1964) 37 PP 19 FIG 1 TAB 8 REF A3 B1 C6 D1 E2 F6 G2 64
*LIQUEFIER, *HYDROGEN, *TURBOEXPANDER, *FILTER, *FACILITY, *LIQUEFACTIC, *HYDROGEN, *CYCLE, *PURIFICATION, *SORPTION, *CHARCOAL, *ORTHO-PARA CONVERSION, *STORAGE, *TRANSPORTATION, *SAFETY, *DISTILLATION
- 24651 THE LIQUEFACTION OF HYDROGEN. PART 3A. BASIC PRINCIPLES. VANDER AREND, P. C. CHELTON, D. B. (NBS, BOULDER, COLO.) TECHNOLOGY AND USES OF LIQUID HYDROGEN, CHAP. 3, 38-55 (SCCT, R. B., DENTON, W. P. AND NICHOLLS, C. M., EDS.) PERGAMON PRESS INC., NEW YORK (1964) 18 PP 13 FIG 2 TAB 3 REF A6 B1 C6 D1 E2 F6 G2 64
*HYDROGEN, *LIQUEFACTIC, *CYCLE, *HEAT OF CONVERSION, *PARAHYDROGEN, *HAMPSON PROCESS, *ORTHO-PARA CONVERSION, *PURIFICATION, *HYDROGEN, *SPECIFIC HEAT, *HEAT OF CONVERSION, *INVERSION CURVE, *GASEOUS
- 24652 A NOTE ON THE THERMAL CONDUCTIVITY OF SOLID NITROGEN AND THE DIRECT CONDENSATION OF NITROGEN GAS INTO A SOLID. KARACHETI, KRISHNAMURTY UNIV. SC. CALIF., ENG. CENTER, LOS ANGELES, USCRC REPT. NO. 56-206 (JAN 1959) CONTR. NO. AF 18(603)-95, AFOSR IN 59-183, 13 PP 2 FIG 4 REF A3 B1 C7 D1 E3 F5 G5 59
*NITROGEN, *SOLIDIFIED GAS, *THERMAL CONDUCTIVITY, *CALCULATION, *EQUATION
- 24703 BIBLIOGRAPHY OF VAPOR PRESSURE DATA FOR HYDROCARBONS. HOLMES, A. S. BRAUN, W. G. FENSKEN, R. R. AMERICAN PETROL. INST., NEW YORK, BIBLIOG. NO. 2 (1964) 66 PP 7 TAB 485 REF A3 B1 C1 D2 E2 F8 G5 64
*VAPOR PRESSURE, *LIQUID, *METHANE, *ETHANE, *PROPANE, *BUTANE, *HYDROCARBON, *ETHYLENE, *PROPYLENE, *BUTYLENE, *PENTANE, *HEXANE, *PENTANE, *BIBLIOGRAPHY
- 24720 ON THE THERMAL CONDUCTIVITY OF SATURATED HYDROCARBONS. NAZIEV, Y. M. KHIP. I TEKHNOLOG. TOPLIV I MASEL, NO. 8, 26-29 (AUG 1964) 4 FIG 1 TAB 6 REF MF NO. 215-P A3 B7 C8 D1 E1 F7 G1 64
*GASEOUS, *HYDROCARBON, *METHANE, *ETHANE, *PROPANE, *THERMAL CONDUCTIVITY, *BUTANE
- 24731 PROPERTIES OF PARA-HYDROGEN. REVISION 1. AEROCJET-GENERAL CORPORATION AEROCJET-GENERAL CORP., SACRAMENTO, CALIF., REPT. NO. 9050-65 (APR 1964) 55 PP 23 FIG 15 REF A3 B1 C6 D1 E2 F5 G5 64
*PARAHYDROGEN, *LIQUID, *GASEOUS, *SPECIFIC HEAT, *SPECIFIC HEAT RATIO, *T-S DIAGRAM, *PRESSURE-ENTHALPY DIAGRAM, *NOLLIER DIAGRAM, *VAPOR PRESSURE, *HEAT OF VAPORIZATION, *VISCOSITY, *THERMAL CONDUCTIVITY, *SURFACE TENSION, *DIELECTRIC CONSTANT
- 24744 DETERMINATION OF VIRIAL COEFFICIENTS BY THE BLUNETT METHOD. HODGER, A. E. CAMFIELD, F. B. KOBAYASHI, R. ET AL. J. CHEM. ENG. DATA VOL. 9, NO. 4, 568-73 (OCT 1964) 3 FIG. 1 TAB 25 REF A5 B1 C8 D1 E1 F6 G1 64
*BLUNETT METHOD, *VIRIAL COEFFICIENT, *EQUATION OF STATE, *HELIUM, *NITROGEN, *GASEOUS

- 24745 SOME REMARKS ON MAGNETIC THERMOMETRY BETWEEN 1.4 AND 23 DEGREES K AND ON THE VAPOR PRESSURE-TEMPERATURE RELATION OF LIQUID HYDROGEN.
DUMKE, M. VAN DIJK, P. TER HARMSE, H. ET AL.
CUPPINS, KAMENLICH GAMES LAB. UNIV. LEIDEN, SUPPL. NO. 121C 10 NOS. 325-336. (REPRINTED FROM TEMPERATURE, ITS MEASUREMENT AND CONTROL IN SCIENCE AND INDUSTRY, VOL 3, PT. 1, REINHOLD PUB. CORP., N. Y. (1967) 11 PP 5 FIG 26 REF
A7 H1 C1 D3 E1 F7 G1 G2
+THERMOMETRY, MAGNETIC THERMOMETRY, +HYDROGEN, +GAS THERMOMETRY,
A3 H1 C1 D3 E1
+HYDROGEN, +VAPOR PRESSURE, EQUATION, +LIQUID.
- 24756 GENERAL IMPROVEMENT OF THE EQUATION OF STATE, SPECIAL EQUATION OF STATE FOR HYDROGEN.
SCHAMES, LEON
Z. PHYSIK VOL 22, 630-34 (1921) (TRANS. NY REGIONAL SCI. INFRM. CENTER, REDSTONE ARSENAL, ALA., TRANS. NO. RSIC-73, OCT 1963)
DDC AD 422 0481 MF NO. 230-1 A3 H1 C7 D1 E1 F7 G1 G2
+HYDROGEN, +EQUATION OF STATE, VIRIAL COEFFICIENT, +GASEOUS.
- 24775 SIGNIFICANT STRUCTURE THEORY OF TRANSPORT PHENOMENA.
REIF, S., REIF, I., CYRING, H. (UNIV. UTAH, SALT LAKE CITY)
J. PHYS. (CHEM. VOL 68, NO. 11, 3262-67 (NOV 1964) 3 FIG 2 1AR 20 REF
A3 H1 C1 D1 E3 F6 G1 G4
+VISCOSITY, +ARGON, +LIQUID, +NITROGEN, +METHANE,
A3 H1 C1 D1 E3
+TRANSPORT PROPERTY, DIFFUSION COEFFICIENT, +LIQUID, +ARGON, +METHANE.
- 24776 SPECIFIC HEAT OF A GAS NEAR THE CRITICAL POINT.
FISHER, M. I.
PHYS. REV. VOL 136, NO. 6A, A1549-A1604 (DEC 1964) 3 FIG 1 1AR 39 REF
A3 H1 C7 D1 E3 F6 G1 G4
+ARGON, +SPECIFIC HEAT, +GASEOUS, +CRITICAL REGION.
- 24777 PROPERTIES OF OXYGEN. REVISION A.
AIRCJET-GENERAL CORPORATION
AIRCJET-GENERAL CORP., SACRAMENTO, CALIF., REPT. NO. 9200-11-A3 (DEC 1963) 27 PP 18 FIG 29 REF
DDC AD 448 146 A3 H1 C7 D1 E2 F5 G5 G3
+OXYGEN, +LIQUID, +GASEOUS, +INDEX OF REFRACTION, +COMPRESSIBILITY, +I-S DIAGRAM, +THERMAL CONDUCTIVITY, +VISCOSITY, +SPECIFIC HEAT, +VELOCITY OF SOUND, +HEAT OF VAPORIZATION, +DIELECTRIC CONSTANT, +VAPOR PRESSURE, +SURFACE TENSION.
- 24780 CALCULATION OF THE SURFACE TENSION OF LIQUIDS BY MEANS OF THE EXCESS ISOTHERM-ISOPIRENT POTENTIAL. PART I.
POPEL, S. I., PAVLOV, V. V., CSIN, O. A.
ZHUR, FIZ. KHIM. VOL 37, NO. 3, 622-27 (MAR 1963) 2 1AR 9 REF
MF NO. 227-1 A3 H7 C1 D1 E3 F7 G1 G3
+SURFACE TENSION, +LIQUID, +ARGON, TEMPERATURE EFFECT, EQUATION, +HYDROGEN, +OXYGEN, +FLUORINE, +CARBON MONOXIDE, +NITROGEN.
- 24782 PROPERTIES OF SELECTED ROCKET PROPELLANTS. VOLUME 1.
GEORGE ARMY
BUDING CO., SEATTLE, WASH., REPT. NO. D2-11877, REVISION A (SEPT 1963) 256 PP 81 FIG 23 1AR
DDC AD 444 642 A3 H1 C1 D1 E2 F5 G5 G3
+FLUORINE, +CORUSION, +LIQUID, +DENSITY, +VAPOR PRESSURE, +VISCOSITY, +SURFACE TENSION, +SOLIDIFIED GAS, +ENTHALPY, +ENTROPY, +SPECIFIC HEAT, +HEAT OF VAPORIZATION, +HEAT OF FUSION, SATURATED LIQUID.
A3 H1 C1 D1 E2
+FLUORINE, +GASEOUS, +DENSITY, +VISCOSITY, +THERMAL CONDUCTIVITY, +ENTHALPY, SATURATED VAPOR, +SPECIFIC HEAT, +FREE ENERGY, +MULLIER DIAGRAM, +DIELECTRIC CONSTANT,
A3 H1 C1 D1 E2
+HYDROGEN, +GASEOUS, +LIQUID, +DENSITY, +VISCOSITY, +THERMAL CONDUCTIVITY, +SPECIFIC HEAT, +VAPOR PRESSURE, +SURFACE TENSION, +VELOCITY OF SOUND, +HEAT OF VAPORIZATION, +HEAT OF FUSION, SATURATED LIQUID.
A3 H1 C1 D1 E2
+OXYGEN, +LIQUID, +DENSITY, +COMPRESSIBILITY, +THERMAL CONDUCTIVITY, +HEAT OF VAPORIZATION, +SPECIFIC HEAT, +ENTHALPY, +VAPOR PRESSURE, +SURFACE TENSION, +VELOCITY OF SOUND, SPECIFIC HEAT RATIO,
A3 H1 C1 D1 E2
+OXYGEN DIFLUORIDE, +LIQUID, +VAPOR PRESSURE, +DENSITY, +VISCOSITY, +GASEOUS, +SPECIFIC HEAT, +ENTROPY, +ENTHALPY, +FREE ENERGY, +HEAT OF VAPORIZATION,
A6 H1 C1 D1 E2
+FLUORINE, +HYDROGEN, +OXYGEN, +OXYGEN DIFLUORIDE, +HANDLING, +STORAGE, +TRANSPORTATION, +SAFETY, +PRODUCTION, +DECONTAMINATION, +EXPLOSION, FIRE HAZARD.
- 24816 OBSERVATION OF THE LAMDA ANOMALY IN SOLID D2 BY NUCLEAR RESONANCE.
GAINES, J. R., DE CASTRO, E. M., WHITE, D. (CHIO STATE UNIV., COLUMBUS)
PHYS. REV. LETTERS VOL 13, NO. 14, 425-26 (OCT 1964) 2 FIG 11 REF
DDC AD 608 112 MF NO. 228-K A3 H1 C5 D3 E1 F6 G1 G4
+DEUTERIUM, +PHASE TRANSITION PROPERTY, +SOLIDIFIED GAS, +SOLID-SOLID TRANSITION, NUCLEAR RESONANCE.
- 24822 LIQUEFACTION; DISCONTINUITE DES ETATS GAZEUX ET LIQUIDE ET ETAT DE LA VAPEUR SATURÉE. LIQUEFACTION; DISCONTINUITY OF THE GASEOUS AND LIQUID STATE AND OF THE SATURATED VAPOR STATE.
DUCLAUX, J.
J. CHIM. PHYS. VOL 61, NOS. 7-8, 1184-90 (JUL-AUG 1964) 5 FIG 1 1AR 6 REF
MF NO. 232-C A3 H2 C7 D1 E3 F7 G1 G4
+LIQUID, +VAPOR PRESSURE, +NITROGEN, +PHASE TRANSITION PROPERTY, DISTRIBUTION FUNCTION.
- 24825 JOULE-THOMSON EFFECTS FOR NITROGEN-ETHANE MIXTURES.
STICKNEY, A. L., MENDEL, L. A.
AIChE J. JOURNAL VOL 10, NO. 4, 557-61 (JUL 1964) 10 FIG 3 1AR 14 REF
MF NO. 213-X A3 H1 C7 D1 E1 F6 G1 G4
+GASEOUS MIXTURE, +NITROGEN, +ETHANE, JOULE-THOMSON COEFFICIENT, +ENTHALPY.
- 24840 THE 1962 JIE SCALE OF TEMPERATURES.
ROBERTS, F. W., SHERMAN, R. H., ET AL (ELUS ALAMOS SCI. LAB., N. MEX.)
PROGRESS IN LOW TEMPERATURE PHYSICS (GORTER, C. J., ED.) VOL 4, CHAPT. X, 485-514. NORTH-HOLLAND PUBL. CO., AMSTERDAM (1964) 13 FIG 3 1AR 54 REF
A7 H1 C4 D1 E2 F7 G2 G4
+THERMOMETRY, SCALE, +HELIUM, HELIUM 3, VAPOR PRESSURE,
A3 H1 C4 D1 E2
+HELIUM, HELIUM 3, HELIUM 4, +VAPOR PRESSURE, +LIQUID.
- 24849 VAPEUR PRESSURES OF XENON (17 DEGREES - 180 DEGREES K) AND KRYPTON (17 DEGREES - 110 DEGREES K).
GRUBER, H., SHURROCK, J. C.
NATURE VOL 204, NO. 4963, 104-05 (DEC 1964) 1 FIG 3 1AR 12 REF
A3 H1 C7 D1 E3 F6 G1 G4
+VAPOR PRESSURE, +XENON, +KRYPTON, +HEAT OF FUSION, EQUATION, +LIQUID, +SOLIDIFIED GAS.
- 24861 NEW HIGH-PRESSURE FLOW CALORIMETER FOR ACCURATE MEASUREMENT OF ENTHALPY DATA.
SANCAL, V. N., GEIST, J. M., ET AL. (AIR PRODUCTS AND CHEMICALS, INC., ALLENTOWN, PA.)
CRYOGENIC ENG. CONF., PHILADELPHIA, PA. (AUG 18-21, 1964) PAPER NO. C-8, 8 FIG 4 1AR 17 REF
A3 H1 C7 D1 E1 F6 G9 G4
+NITROGEN, +METHANE, +GASEOUS, PRESSURE EFFECT, HIGH PRESSURE, +ENTHALPY,
A7 H1 C7 D1 E1
RESISTANCE THERMOMETER, +THERMOMETRY, FLOW, +CALORIMETRY.
- 24914 NEW CRYSTALLINE PHASE IN SOLID ARGON AND ITS SOLID SOLUTIONS.
MEYER, L., BARRETT, C. S., HAASEN, P.
J. CHEM. PHYS. VOL 40, NO. 9, 2744-45 (1964) 11 REF
MF NO. 226-D A3 H1 C4 D1 E1 F6 G1 G4
+ARGON, +SOLIDIFIED GAS, LATTICE PARAMETER, +ATOMIC-MOLECULAR PROPERTY, SOLID-SOLID TRANSITION,
A3 H1 C4 D1 E1 F6 G1 G4
A NOTE ON THERMOELECTRICITY IN THE INTERMEDIATE STATE.
RENTON, G. A.
- 24915 NEW CRYSTALLINE PHASE IN SOLID ARGON AND ITS SOLID SOLUTIONS.
MEYER, L., BARRETT, C. S., HAASEN, P.
J. CHEM. PHYS. VOL 40, NO. 9, 2744-45 (1964) 11 REF
MF NO. 226-D A3 H1 C4 D1 E1 F6 G1 G4
+ARGON, +SOLIDIFIED GAS, LATTICE PARAMETER, +ATOMIC-MOLECULAR PROPERTY, SOLID-SOLID TRANSITION.
- 24925 DIE ZAHIGKEIT VON ERD- UND PARA-WASSENSTOFF BEI TIEFEN TEMPERATUREN. VISCOSITY OF ORTHO AND PARA HYDROGEN AT LOW TEMPERATURES.
RECKER, E. W., STEHL, D.
NATURWISSENSCHAFTEN VOL 38, 321 (1951)
MF NO. 501-C A3 D3 C1 D2 E2 F7 G1 G1
+HYDROGEN, +NORMAL HYDROGEN, +ORTHO-PARAHYDROGEN, +GASEOUS, +VISCOSITY.
- 24940 ULTRASONIC PROPAGATION NEAR THE CRITICAL POINT IN HELIUM.
CHASE, C. E., WILLIAMS, F. C., FISHER, L.
PHYS. REV. LETTERS VOL 13, NO. 15, 467-69 (OCT 1964) 2 FIG 11 REF
MF NO. 228-L A3 H1 C5 D3 E1 F6 G1 G4
+HELIUM, +VELOCITY OF SOUND, +CRITICAL REGION, +COMPRESSIBILITY, +GASEOUS.
- 24946 A GENERALIZED VIRIAL EQUATION OF STATE DERIVED FROM EXPERIMENTAL DATA.
GYERUG, D. A., OBER, E. F.
AIChE J. JOURNAL VOL 10, NO. 5, 625-31 (SEPT 1964) 8 FIG 4 1AR 25 REF
MF NO. 230-Z A3 H1 C1 D1 E3 F6 G1 G4
+EQUATION OF STATE, VIRIAL COEFFICIENT, +METHANE, +NITROGEN, +OXYGEN, +AIR, +KRYPTON, +NEON.
- 24948 VIRIAL COEFFICIENTS FOR ARGON, METHANE, NITROGEN AND NEON.
GYERUG, D. A., OBER, E. F.
AIChE J. JOURNAL VOL 10, NO. 5, 621-25 (SEPT 1964) 1 1AR 45 REF
MF NO. 230-Y A3 H1 C1 D1 E3 F6 G1 G4
+EQUATION OF STATE, VIRIAL COEFFICIENT, +METHANE, +NITROGEN, +ARGON, +XENON, SECOND VIRIAL COEFFICIENT, THIRD VIRIAL COEFFICIENT, +GASEOUS.
- 25000 EXPERIMENTAL STUDY OF THE VISCOSITY OF HELIUM AND NITROGEN.
MAKAVETSKAS, R. A., POPEL, V. N., TSEDERBERG, V. (MPCOM ENERGY INST.)
HIGH TEMPERATURE VOL 1, 169-75 (SEPT-OCT 1963) 10 REF (TRANS. FROM TEMPERATURE, VYSOKIH TEMPERATUR VOL 1, 191-97, SEPT-OCT 1963) 1AA 404 19699 A3 H1 C7 D1 E1 F7 G1 G3
+HELIUM, +NITROGEN, +GASEOUS, +VISCOSITY, PRESSURE EFFECT, TEMPERATURE EFFECT.
- 25010 COOLANTS.
ZUCKER, JOSEF
FOREIGN TECHNOLOGY DIV., AF SYSTEMS COMMAND, WRIGHT-PATTERSON AFB, OHIO, TRANS. NO. F10-11-01-470 (MAY 1963) 16 PP (TRANS. OF PART OF A NUCLEAR MATERIALS JAPANESE REACTOR, PRAGUE, 132-41, 1958) NASA 604 11507 A3 H1 C2 D1 E2 F3 G6 G8
+REFRIGERANT, REVIEW, +PHYSICAL PROPERTY.
- 25041 HYDROGEN MASS FLOWMETER DEVELOPMENT.
SIEV, R., YODEN, S. K.
AIRCJET-GENERAL CORP., AZUSA, CALIF., FINAL REPT. NO. 2048 (JUL 1961) CONTR. NO. AF 33(616)-6811, 213 PP 74 FIG 11 1AR 15 REF
DDC AD 450 666 A7 H1 C4 D1 E1 F5 G5 G1
METROLOGY, FLOW METER, +HYDROGEN, FLUID FLOW, +MEASUREMENT, LIQUID, +GASEOUS,
A3 H1 C4 D1 E1
+HYDROGEN, I-S DIAGRAM, +VISCOSITY, +LIQUID, +GASEOUS,
A2 H1 C4 D1 E1
+THERMAL EXPANSION, +TEFLON, ANALOGUE, +ZINC, +MAGNESIUM, +BRASS, +MANGANESE, +ALUMINUM, +COPPER, +NICKEL, +PYREX, STAINLESS 304, +TITANIUM.
- 25052 LA CONDUCTIVITE THERMIQUE DE L'ETAT SOLIDE AUX MASSES TEMPERATURES. THERMAL CONDUCTIVITY OF THE SOLID STATE AT LOW TEMPERATURES.
VAN TIERCKE, A., VAN NESTE, L.
IND.-CHIM. BELGE VOL 29, NO. 9, 965-10 (SEPT 1964) 9 FIG 1 MF NO. 229-1 A3 H2 C4 D3 E1 F7 G1 G4
+HELIUM, +SOLIDIFIED GAS, +THERMAL CONDUCTIVITY.

- 25312 RESEARCH IN EXPERIMENTAL HEAT OF VAPORIZATION AND ENTHALPY MEASUREMENTS OF OXYGEN-NITROGEN-ARGON MIXTURES. LITVIN, M. WILSON, G. W. ALK PROCESSES AND CHEMICAL, INC., ALLERTON, PA., QUART. REPT. NO. 1 (JUL 1964) COVER. NO. AF 331613-1337, 36 PP. 13 FIG 9 TAB 14 REF. A3 P1 C7 D1 E1 F5 G5 64
 +GASEOUS MIXTURE, +LIQUID MIXTURE, +PHASE EQUILIBRIUM, +OXYGEN, +NITROGEN, +ARGON, +ENTHALPY, SOLID SOLUTION, SOLID-LIQUID EQUILIBRIUM, +HEAT OF VAPORIZATION, +ARGON, +NITROGEN, +AIR, +THERMAL STABILITY.
- 25316 RESEARCH ON RHEOLOGIC AND THERMODYNAMIC PROPERTIES OF SOLID AND SLUSH HYDROGEN. DWYER, M. F. LIND, D., TONAMANDA, N. Y., QUART. REPT. NO. 5 (NOV 1964) CONTR. NO. AF331657-11098, 65 PP 10 FIG 6 TAB 9 REF. UDC AD 451 544 A3 P1 C6 D1 E1 F8 G5 64
 +PARAHYDROGEN, SLUSH, +DENSITY, +SOLIDIFIED GAS, POLAR VOLUME, +LIQUID, A7 P1 C6 D1 E1
 +DENSITY, +HYDROGEN, SLUSH, +LIQUID, +SOLID, +MEASUREMENT, +THERMAL CONDUCTIVITY
- 25326 THE THERMAL EXPANSION OF AN ALMOST LINEAR CHAIN. LLOYD, P. DWYER, J. J. (UNIV. NEW SOUTH WALES, KENSINGTON) AUSTRALIAN J. PHYS. VOL 16, NO. 2, 193-202 (1963) CA 60 12672C A3 B1 C7 D1 E3 F7 G1 63
 +ARGON, +SOLIDIFIED GAS, +EXPANSIVITY, THERMAL EXPANSION, CALCULATION.
- 25330 STATE EQUATIONS OF XENON AND METHANE. PREDVODILEV, A. S. (STATE UNIV., MOSCOW) INZHENER. FIZ. ZHURN. NAUK BELORUS S.S.S.R. VOL 7, NO. 1, 93-97 (1964) CA 60 12681A A3 B7 C8 D E3 F7 G1 64
 +METHANE, +XENON, +GASEOUS, +EQUATION OF STATE.
- 25335 THE HYDROGEN ISOTOPES - THERMODYNAMIC PROPERTIES OF THEIR COMPOUNDS. FORST, G. COLUMBIA UNIV., NEW YORK, REPT. NO. MDCG-1496 (SEPT 1962) 47 PP. A3 B1 C1 D1 E2 F3 G5 42
 +HYDROGEN, +DEUTERIUM, +DEUTERO-COMPOUND, +VELOCITY OF SOUND, +EQUATION OF STATE, ZERO POINT ENERGY, +TRIPLE POINT, +GASEOUS, +FREE ENERGY, +SPECIFIC HEAT, BIBLIOGRAPHY, +VAPOR PRESSURE, ANNOTATED BIBLIOGRAPHY, +COMPRESSIBILITY, A3 B1 C1 D1 E2
 +HYDROGEN, +DEUTERIUM, +DEUTERO-COMPOUND, +EXPANSIVITY, +DENSITY, +ATOMIC-MOLECULAR PROPERTY, +THERMAL CONDUCTIVITY, +ENTROPY, BIBLIOGRAPHY, ANNOTATED BIBLIOGRAPHY, +GASEOUS, A3 B1 C1 D1 E2
 +METHANE, +DEUTERO-COMPOUND, +SPECIFIC HEAT, +TRIPLE POINT, SOLID-SOLID TRANSITION, +MELTING CURVE, +HEAT OF FUSION, +HEAT OF VAPORIZATION, BIBLIOGRAPHY, ANNOTATED BIBLIOGRAPHY, A3 B1 C1 D1 E2
 +WATER, +DEUTERO-COMPOUND, ZERO POINT ENERGY, +ENTROPY, +DENSITY, +SPECIFIC HEAT, +VAPOR PRESSURE, SOLID-SOLID TRANSITION, +VELOCITY OF SOUND, +COMPRESSIBILITY, ANNOTATED BIBLIOGRAPHY, BIBLIOGRAPHY.
- 25362 CALCULATION OF THERMAL CONDUCTIVITY OF COMPRESSED GASES. NAZIEV, YA. M. INZHENER. FIZ. ZHURN. NAUK BELORUS. S.S.S.R. VOL 7, NO. 2, 45-47 (1964) CA 60 15160C A3 B7 C8 D E3 F7 G1 64
 +CARBON DIOXIDE, +HYDROCARBON, +GASEOUS, +THERMAL CONDUCTIVITY, CALCULATION.
- 25365 EQUATION OF STATE OF THE SATURATED VAPOR OF MONOATOMIC ELEMENTS. ZHIVONINOV, J. M. (INST. PHYS. ENG. SCHOOL, BELGRADE, YUGOSLAVIA) GLASNIK HEM. DRUSTVA, BEOGRAD VOL 28, NO. 2, 65-72 (1963) CA 60 15166C A3 B9 C7 D E3 F7 G1 63
 +GASEOUS, SATURATED VAPOR, +EQUATION OF STATE, CRITICAL PRESSURE, +ARGON, +XENON.
- 25334 CALCULATION OF THE VAPOR PRESSURE AND HEATS OF VAPORIZATION AND SUBLIMATION OF LIQUIDS AND SOLIDS BELOW ONE ATMOSPHERIC PRESSURE. VII. ETHANE. ZIEGLER, W. T. KIRK, D. S. MULLINS, J. C. BERQUIST, A. R. GEORGIA INST. TECHNOL., ENG. EXPT. STA., ATLANTA, TECH. REPT. NO. 2 (DEC 1964) CONTR. NO. CST-1154, PROJ. NO. A-764, 57 PP. 2 FIG 12 TAB 52 REF. A3 B1 C6 D E F8 G5 64
 +ETHANE, +LIQUID, +SOLIDIFIED GAS, +VAPOR PRESSURE, +GASEOUS, +HEAT OF VAPORIZATION, +HEAT OF SUBLIMATION, +HEAT OF FUSION, +TRIPLE POINT, SECOND VIRIAL COEFFICIENT, +ENTROPY, +ENTHALPY, +BOILING POINT, +SPECIFIC HEAT.
- 25336 PROGRESS ON AN EQUATION OF STATE FOR HYDROGEN. GOTCHIN, R. C. NATL. BUR. STANDARDS CRYOGENIC ENG. LAB. NOTE NO. 65-5 (FEB 1965) 15 PP 1 FIG 5 TAB. A3 B1 C1 D1 E3 F1 G9 65
 +HYDROGEN, +EQUATION OF STATE, +GASEOUS, +LIQUID.
- 25337 THE EQUATION OF STATE OF HYDROGEN AT HIGH PRESSURES. ABRIKOSOV, A. A. ASTRON. ZH. VOL 31, 112 (1954) (TRANS. BY RAND CORP., SANTA MONICA, CALIF., TRANS. NO. T-81, MAR 1958) 26 PP. UDC AD 605 743 A3 B1 C2 D1 E3 F5 G1 54
 +HYDROGEN, +EQUATION OF STATE, VERY HIGH PRESSURE, +GASEOUS.
- 25343 EINIGE THERMODYNAMISCHE BEZIEHUNGEN FÜR DIE LICHTISCHE ARBEITSFÄHIGKEIT UND EIN EXERGIEDIAGRAMM FÜR KÖHLEN-DIOXYD. THERMODYNAMIC RELATIONS FOR THE AVAILABILITY (EXERGY) AND AN EXERGY DIAGRAM FOR CARBON DIOXIDE. GLASER, M. KALTETECHNIK VOL 16, NO. 11, 345-48 (NOV 1964) 3 FIG 3 REF. A3 B3 C9 D3 E2 F7 G1
 +FREE ENERGY, +ENTHALPY, FREDON 12, +CARBON DIOXIDE, +REFRIGERANT, GASEOUS.
- 25344 SLUSH HYDROGEN. CARAS, G. J. MEDSTONE SCI. INFORM. CENTER, MEDSTONE ARSENAL, ALA., REPT. NO. NSIC-208 (SEPT 1964) 44 PP 17 FIG 10 TAB 17 REF. UDC AD 451 143 A3 B1 C6 D1 E2 F5 G6 64
 +HYDROGEN, SLUSH, +PARAHYDROGEN, +HEAT OF FUSION, +MELTING CURVE, +PVT DATA, +LIQUID, +SOLIDIFIED GAS, +DENSITY, A3 B1 C6 D1 E2
 +HELIUM, +GASEOUS, +SOLIDITY, SOLUBILITY, LIQUID, HYDROGEN, A3 B1 C6 D1 E2
 +HYDROGEN, SLUSH, +PRODUCTION, +STORAGE, +FLUID TRANSFER, +COOLING PROCESS, GAS INJECTION, CASCADE PROCESS, JOULE-THOMSON.
- 25359 DETERMINATION OF BULK MODULUS AND SONIC VELOCITY IN SUPERHEATED LIQUID HYDROGEN AND SUPERHEATED LIQUID DEUTERIUM. MYALL, J. H. CALIF. UNIV., LAWRENCE RAD. LAB., BERKELEY, REPT. NO. UC10-1234 REV. 1 (JAN 1961) 13 PP. A3 B1 C6 D1 E1 F8 G9 60
 +HYDROGEN, +DEUTERIUM, +LIQUID, SUPERHEATED, BULK MODULUS, +VELOCITY OF SOUND, +PVT DATA, +SPECIFIC HEAT, MECHANICAL PROPERTY.
- 25390 THE ROLE OF CRYOGENICS IN THE PRODUCTION OF HIGH AND ULTRA-HIGH VACUUM. MULLEN, L. C. HIZA, M. J. (NBS, CEL. BOULDER, COLO.) CRYOGENICS VOL 4, NO. 4, 387-94 (DEC 1964) 2 FIG 4 TAB 40 REF. A3 B1 C1 D1 E2 F7 G1 64
 +CRYOPUMPING, OUTGASSING, VACUUM TECHNOLOGY, A2 B1 C8 D1 E2
 +PERMEATION, +ELASTOMER, +RUBBER, HYDROGEN, OXYGEN, NITROGEN, METHANE, HELIUM, XENON, ARGON, CARBON DIOXIDE, A3 B1 C1 D1 E2
 +VAPOR PRESSURE, +ARGON, +OXYGEN, +NITROGEN, +METHANE, +CARBON DIOXIDE, ICE, A2 B1 C1 D1 E2
 OUTGASSING, METAL, +PLASTIC, +ELASTOMER, +NYLON, +TEFLON, +MYLAR, MINERAL, +STEEL, +STAINLESS STEEL, GLASS.
- 25604 THE SPECIFIC HEAT OF LIQUID HELIUM. LOUHASMAA, O. V. TURKU UNIV., FINLAND, LICENTIATE (MASTER) OF PHILOSOPHY THESIS (1957) 44 PP 12 FIG 3 TAB 19 REF. A3 B1 C5 D1 E1 F9 G8 57
 +HELIUM, +SPECIFIC HEAT, +LIQUID, +ENTROPY, LAMBDA TEMPERATURE, SATURATED LIQUID, +CRITICAL REGION, A7 B1 C5 D1 E1
 +THERMOMETRY, +HELIUM, VAPOR PRESSURE THERMOMETER.
- 25615 LIQUID STRUCTURE AND THE CONFIGURATIONAL PROPERTIES OF A SIMPLE FLUID. MELROSE, J. C. (ISOCOM MOBIL OIL CO., INC., DALLAS, TEX.) AICHE 95TH ANNU. MEETING, HOUSTON, TEX. (FEB 7-11, 1965) PAPER 40 PP 11 FIG 27 REF. A3 B1 C1 D3 E3 F8 G9 65
 +EQUATION OF STATE, +LIQUID, LIQUID-VAPOR EQUILIBRIUM, +GASEOUS, +REDUCED VARIABLE, +CRITICAL REGION, +ARGON.
- 25699 COMPRESSIBILITY OF HELIUM AT -10 DEGREES TO 130 DEGREES F AND PRESSURES TO 4000 P.S.I.A. STREUD, L. MILLER, J. E. BRANDT, L. W. (BRI. MINES HELIUM RES. CENTER, ARLING, TEX.) J. CHEM. ENG. DATA VOL 4, NO. 4, 51-52 (OCT 1959) A3 B1 C8 D1 E1 F6 G1 59
 +HELIUM, COMPRESSIBILITY FACTOR, +GASEOUS, +EQUATION OF STATE, SECOND VIRIAL COEFFICIENT.

- 17559 Viscosity and thermal conductivity of binary gas mixtures: argon-neon, argon-helium, and neon-helium. Thornton, E. Baker, W.A.D. Proc. Phys. Soc. (London) **80**, No. 5, 1171-75 (1962) CNRS 24-3-5571 A3 B1 C8 D E1 F6 G1
*gaseous mixture, *binary system, *viscosity, *thermal conductivity, *argon, *helium, *neon
- 17607 Solid-solid phase transitions in He3, He4 and He3-He4 mixtures. Vignoe, J.H. Fairbank, H.A. Bull. Am. Phys. Soc. **7** No. 1, Part I, 77 (1962) CNRS 24-3-7787 A3 B1 C D E1 F6 G1
*helium, *solidified gas, helium 3, helium 3-helium 4, helium 4, *velocity of sound, solid-solid transition, *phase transition
- 17618 Equation d'etat pour des melanges de methane. Equation of state for mixtures of methane and ethane. Vasserman, A.A. Zagoruchenko, V.A. Kisevichinskij, Ya.Z. Zhur. Fiz. Khim. **36**, No. 11, 2527-29 (1962) Trans. in Russ. J. Phys. Chem. **36**, No. 11, 1375-77 (1962) CNRS 24-3-9182 MF No. 507-A A3 B1 C0 D E F7 G1 G2
*gaseous mixture, *ethane, *methane, *equation of state,
- 17638 Thermal conductivity of binary mixtures of gases. Cotton, J.E. Oregon Univ., Eugene, Ph.D. Thesis (1962) (Abstr. in Dissertation Abstr. **23**, No. 5, 1526, 1962) CNRS 24-3-9340 A3 B1 C D E1 F9 G7
*thermal conductivity, *gaseous, *hydrogen, *gaseous mixture, *helium, *binary system, *hydrocarbon
- 17663 The second virial coefficient of gases and mixtures. Part 1. Carbon dioxide plus helium mixtures. Cottrell, T.L. Hamilton, R.A. Trans. Faraday Soc. **52**, 156-60 (1956) 1 fig 1 tab 13 ref MF No. 189-C A3 B1 C2 D1 E1 F7 G1
*carbon dioxide, virial coefficient, *gaseous, *equation of state, *gaseous mixture, *helium, *binary system
- 17730 Recherches experimentales sur la viscosite des gaz aux temperatures elevees. Experimental research on the viscosity of gases at elevated temperatures. Vasilescu, Virgile University of Paris, Ph.D. Thesis (1940) 112 pp 12 fig 10 tab 26 ref A3 B2 C8 D1 E1 F9 G7
*viscosity, *gaseous, *air, *argon, *nitrogen, *carbon dioxide,
- 17835 An approximate cell model for liquid hydrogen. I. Henderson, D. Kim, S. Eyring, H. Proc. Natl. Acad. Sci. U. S. **48**, No. 10, 1753-59 (Oct 1962) 5 fig 1 tab 15 ref MF No. 184-T A3 B1 C6 D1 E3 F6 G1 G2
*hydrogen, excess property, *entropy, *internal energy, *specific heat, *liquid, *reduced variable;
- 17965 Critical phenomena in gases. I. Lennard-Jones, J.E. Devonshire, A.F. Proc. Roy. Soc. (London) **A163**, 53-70 (1937) 2 fig 3 tab 10 ref MF No. 187-B A3 B1 C1 D1 E3 F6 G1 G7
*critical region, *gaseous, *PVT data, *reduced variable, calculation, *hydrogen, *equation of state, *neon, *nitrogen, *argon, Lennard-Jones function, *atomic molecular property
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*thermal conductivity, *gaseous, *air, *methane, pressure effect, *organic fluid, *carbon dioxide, *ethane,
- 17969 The pressure dependence of the thermal conductivity of polyatomic gases at 0 degrees C. Kannuliuk, W.G. Donald, H.B. Australian J. Sci. Res. **A5**, 417-27 (1950) 3 fig 3 tab 7 ref MF No. 187-G A3 B1 C8 D1 E1 F7 G1
*gaseous, *thermal conductivity, *argon, *neon, *air, *carbon dioxide, *methane, *inorganic fluid, oxide of nitrogen,
- 17993 Critical phenomena in gases. II. Vapour pressures and boiling points. Lennard-Jones, J.E. Devonshire, A.F. Proc. Roy. Soc. (London) **A163**, 1-11 (1938) 2 tab 15 ref MF No. 187-K A3 B1 C1 D1 E3 F6 G1
*gaseous, *liquid, *neon, *reduced variable, *vapor pressure, *argon, *boiling temperature, calculation, *nitrogen,
- 17994 On the application of the principle of corresponding states to the thermal conductivity of the gaseous state. Losenický, Z. Czechoslov. J. Phys. **9**, 399-400 (1959) 1 fig 5 ref MF No. 187-L A3 B1 C1 D3 E2 F7 G1
*reduced variable, law of corresponding states, *gaseous, *thermal conductivity, *methane, *hydrogen, *oxygen, *nitrogen, *neon, *helium, *argon, *carbon monoxide, *carbon dioxide
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*argon, *helium, *gaseous, *gaseous mixture, *binary system, *viscosity, pressure effect, concentration effect
- 17999 Über die innere Reibung einiger Gase und Gasgemische bei verschiedenen Temperaturen. The viscosity of some gases and gas mixtures at different temperatures. Schmitt, Karl Ann. Physik **30**, 393-410 (1909) 16 tab 18 ref MF No. 187-S A3 B3 C7 D1 E1 F7 G1
*air, *helium, *hydrogen, *argon, *nitrogen, *viscosity, *gaseous, oxygen, *gaseous mixture, *binary system
- 18000 Die Reibung, Wärmeleitung und Diffusion in Gemischungen. VII. Die Reibung des H2, He, Ne, Ar und ihrer binären Gemische. The viscosity, heat conductivity, and diffusion in gas mixtures. VIII. The viscosity of hydrogen, helium, neon, argon and their binary mixtures. Trautz, M. Binkels, H.E. Ann. Physik **5**, 561-80 (Apr 1930) 4 tab 20 ref MF No. 187-U A3 B3 C8 D1 E1 F7 G1 G3
*hydrogen, *helium, *neon, *argon, *carbon dioxide, *inorganic fluid, hydrogen chloride, *gaseous, *viscosity,
- 18001 Conduction of heat through rarefied gases. I. Soddy, F. Berry, A.J. Proc. Roy. Soc. (London) **A84**, 576-85 (1911) 5 tab 9 ref MF No. 187-V A3 B1 C8 D1 E1 F6 G1
*neon, *argon, *gaseous, *thermal conductivity, *helium, *hydrogen
- 18003 Some thermodynamical relations. Part II. Ramsey, N. Young, S. Phil. Mag. **21**, 33-51 (1886) 2 fig 23 tab MF No. 187-X A3 B1 C7 D1 E2 F6 G1
*liquid, *vapor pressure, *ethylene, *oxygen
- 18004 Die Kristallstruktur des Argons. The crystal structure of argon. Simon, F. Von Simon, C. Z. Physik **25**, 160-64 (Mar 1924) 17 ref MF No. 187-Y A3 B3 C7 D1 E1 F7 G1
*argon, *solidified gas, crystal structure, *density,
- 18015 Über die Änderung der inneren Reibung der Gase der Argongruppe mit der Temperatur. On the variation with temperature of the viscosities of the gases of the argon group. Rankine, A.O. Physik. Z. **11**, 745-52 (1910) 8 tab MF No. 188-E A3 B3 C8 D1 E1 F7 G1
*argon, *neon, *helium, *rare gas, krypton, xenon, *gaseous, *viscosity, temperature effect, *air
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inversion curve, *joule thomson coefficient, *helium, *neon, *argon, krypton, xenon, *hydrogen, *deuterium, *nitrogen, *oxygen, *carbon monoxide, *methane, *gaseous
- 18033 A revised calculation of the velocity of sound in liquid helium. Crowe, A. Proc. Phys. Soc. (London) **81**, 320-22 (1963) 1 fig 6 ref MF No. 183-P A3 B1 C5 D3 E3 F6 G1
*helium, *velocity of sound, *liquid
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*critical constant, *gaseous, *air, *acetylene, *neon, *ammonia, *argon, *butane, isobutane, *ethane, *carbon dioxide, *carbon monoxide, *ethylene, *helium, *hydrogen, krypton, *methane,
- 18045 Some boiling and triple points below 0 degrees C. Lovejoy, D.R. Nature **197**, No. 4865, 353-54 (Jan 1963) 2 tab 8 ref IIR 12950 MF No. 188-O A3 B1 C7 D1 E2 F7 G1 G3
*boiling temperature, *carbon dioxide, xenon, krypton, *methane, *oxygen, *argon, *nitrogen, *carbon monoxide,
- 18046 Die Struktur von beta-Stickstoff und die verschiedene Phosphoreszenzfähigkeit der beiden Formen des festen Stickstoffs. The structure of beta nitrogen and the differing capacities to phosphorescence of the forms of solid nitrogen. Vegard, L. Z. Physik **79**, 471-91 (1932) 5 fig 1 tab 15 ref A2 B3 C7 D1 E1 F7 G1
*nitrogen, *solidified gas, *atomic molecular property, crystal structure, x-ray, *density, spectroscopic data
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*helium, *liquid, *PVT data, *density, *compressibility,
- 18075 Bond lengths in solid helium. Schuch, A.F. Los Alamos Sci. Lab., N. Mex., Rept. No. LADC-4912 (1961) Contr. No. W7405-eng-36, 3 pp 6 ref: (Title in U. S. Gov. Res. Repts. **38**, No. 10, 5-28, May 1963) A4 B1 C5 D1 E3 F6 G5 G1
*helium, *solidified gas, solid-solid transition, molecular volume, intermolecular force, crystal structure, lattice parameter

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Le Fèvre, C., Pascenti, A.E., Dow, P., deHuygh (Unter, R.).
Intern. Congr. of Refrigeration, 11th, Munich (Aug 1965)
Paper 1-8
IR 10029
AS RI C4 D5 E1 F0 G0
Helium, helium 3, helium 4, helium-helium 4, liquid, pressure effect, lambda temperature, helium 1, helium 11, melting curve
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Aylmer, C.B.
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Paper 11-9
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AS RI C4 D5 E1 F0 G0
Joule-Thomson coefficient, air, gaseous, binary system, hydrogen, methane, gaseous mixture
- 10101 The influence of a magnetic field on the transport properties of diatomic molecules in the gaseous state.
Heemkerk, J.M., Steen, G., Knap, H.P.P., Jonkman, R.M.
Phys. Letters 2, No. 1, 1-6 (Aug 1962) 2 fig 6 ref
AS RI C2 D5 E1 F0 G1
Nitrogen, gaseous, viscosity, magnetic field
- 10106 Vapor pressure of pure substances. Inorganic compounds.
Stull, D.R.
Ind. Eng. Chem., 50, No. 4, 546-50 (1957) 2 tab 499 ref
AS RI C1 D1 E2 F0 G1
Inorganic fluid, liquid, solidified gas, vapor, vapor pressure, compilation, bibliography, neon, carbon monoxide, fluorine, helium, oxygen, nitrogen, sulfur, hydrogen, deuteride, krypton, oxide of nitrogen, neon, refrigerant
- 10122 Compressibility factors for helium and helium-nitrogen mixtures.
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U.S. Bur. Mines Rept. of Investigation No. 5045 (1961) 15 pp
4 fig 4 tab 11 ref
MF No. 170-Y
AS RI C0 D1 E1 F0 G0
Helium, gaseous, PVT data, nitrogen, compressibility factor
- 10161 Fourth virial coefficients for the 12-6 potential.
Barker, J.A., Cunningham, J.J.
J. Chem. Phys., 35, No. 10, 2564-71 (May 1962) 1 tab
6 ref
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Argon, virial coefficient, Lennard-Jones function, intermolecular force, gaseous, equation of state, critical constant
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Rigelsen, J., Roth, K.
J. Chem. Phys., 35, 687-77 (1961) 3 fig 4 tab 20 ref
MF No. 170-X
AS RI C0 D1 E1 F0 G1 G1
Neon, isotope, liquid, vapor pressure, centrifuge, solidified gas, triple point, specific heat, debye constant
- 10167 Berechnung der Nullpunktdichte einiger Elemente. Determination of the zero point density of several elements.
Hera, W.
Z. Anorg. Chem., 119, 171-74 (1919) 3 ref
MF No. 177-V
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Density, oxygen, gaseous, hydrogen, nitrogen, zero point
- 10169 The λ -T diagram of methane. The λ -T diagram of methane.
Kicken, A., Bergner, W.
Z. Ges. Kälte-Ind., 41, No. 9, 146-52 (1954) 1 fig 6 tab 6 ref
MF No. 170-X
AS RI C7 D1 E1 F0 G1
Methane, centrifuge, T λ diagram, liquid, heat of vaporization, gaseous, specific heat, vapor pressure, Joule-Thomson
- 10169 Compressibility of nitrogen at pressures up to 10,000 atm.
Tskhin, D.B.
Akad. Nauk S.S.S.R. Doklady 22, No. 2, 200-01 (1961) 3 tab 5 ref
MF No. 170-X
AS RI C7 D1 E1 F0 G1
Nitrogen, density, gaseous, very high pressure
- 10171 Determination of the relative vapor pressure of methane and oxygen isotopes by the Rayleigh distillation method.
Beyntlykh, G.D., Tarin, A.D.
Zhur. Fiz. Khim., 35, No. 5, 1155-59 (1961) 5 fig 3 tab 15 ref
MF No. 170-X
AS RI C7 D1 E1 F0 G1
Vapor pressure, isotope, methane, oxygen, carbon monoxide
- 10172 Vapor pressures of the inert gases.
Harrin, C.K., Jr., Thacker, O.
J. Chem. Phys., 35, 690-96 (1961) 2 fig 4 tab 10 ref
MF No. 170-X
AS RI C7 D1 E5 F0 G1
Vapor pressure, rare gas, krypton, xenon, helium, neon, argon, triple point to critical point, liquid, compressibility
- 10173 Der Einfluss von Anfangsdruck und Vorkühltemperatur bei der Verflüssigung des Wasserstoffs. The influence of the initial pressure and the pre-cooling temperature on the liquefaction of hydrogen.
Meissner, Walter
Z. Physik 10, 11-25 (1925) 4 fig 4 tab 0 ref
AS RI C6 D1 E2 F0 G1
Hydrogen, gaseous, equation of state, virial coefficient
- 10179 Some thermal properties of condensed helium.
Kajander, R., Simon, P.
Nature 133, 460 (1934) 6 ref
AS RI C6 D1 E1 F0 G1
Helium, solidified gas, saturated, heat of fusion, density, compressibility, specific heat, expansivity, zero point energy, liquid
- 10180 Übergang zwischen ordnung und unordnung in festen und flüssigen Phasen. Relation von Molekeln und Ionengruppen in Kristallen. Relation between order and disorder in solid and liquid phases. Relation of molecules and ion groups in crystals.
Kicken, A.
Z. Elektrochem., 45, No. 2, 185-90 (1959) 9 fig 4 tab 15 ref
AS RI C7 D1 E2 F0 G1
- 10181 Die Bestimmung unbekannter kritischer Daten von nicht assoziierenden Stoffen. Untersuchungen über eine Erweiterung des Theorems der übereinstimmenden Zustände, Teil V. The determination of unknown critical data of non-associated materials. Investigation concerning an extension of the theory of corresponding states. Part V.
Kicken, A.
Chem. Ing. Tech., 31, 471-80 (1959) 5 fig 3 tab 7 ref
AS RI C6 D1 E2 F0 G1
Critical constant, vapor pressure, nitrogen, inorganic fluid, phosphorus trichloride, density, sulfur dioxide, methane, hydrocarbon, propylene, organic fluid, boiling
- 10182 Kompressibilität, Oberflächenspannung und Wärmeleitfähigkeit im flüssigen Zustand. Untersuchungen über eine Erweiterung des Theorems der übereinstimmenden Zustände. Teil IV. Compressibility, surface tension and thermal conductivity in the liquid state. Investigation concerning an extension of the theory of corresponding states. Part IV.
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Clausen, K.
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0 ref
MF No. 104-W
AS RI C6 D5 E2 F0 G1 G2
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PROGRESS IN INTERNATIONAL RESEARCH ON THERMODYNAMIC AND TRANSPORT PROPERTIES, Papers Symp. Thermodynamic Properties, Ed., Princeton, N.J., 1962, 343-51 (Mast, J.F., Tait, D.H. eds.) Academic Press, N.Y. (1962)
MF No. 107-1
AS RI C6 D1 E5 F0 G2 G2
Argon, liquid, specific heat, viscosity
- 10190 Viscosity and heat conduction of gases (and liquids) in the neighborhood of the condensation region.
Michels, A. (Van der Waals-Laboratorium, Delft Univ., Amsterdam, The Netherlands)
Proc. Intern. Symp. Transport Processes Statist. Mech., Brussels 1960, 305-25 (1960) 14 fig 0 ref
MF No. 107-X
AS RI C6 D5 E2 F0 G2 G2
- 10190 Statistical theory of surface tension.
Chang, S., Lee, T., Kyring, H., Matsuzaki, I. (Seoul Natl. Lab., Korea)
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MF No. 107-X
AS RI C7 D1 E5 F0 G2 G2
Argon, nitrogen, methane, liquid, surface tension
- 10084 Experimental data on liquid-vapor equilibrium in the oxygen-neon system at 0.5 degrees, 10 degrees, 110 degrees and 120 degrees K.
Marshall, D.B.
Kirkwood, No. 3, 1-16 (1957) 1 fig 3 tab 24 ref
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Oxygen, argon, liquid mixture, gaseous mixture, binary system
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Whitney, M.M. (M.I.T., Cambridge)
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CA 50 2061a
AS RI C4 D1 E1 F0 G1 G2
- 21176 Discussion of thermodynamic properties of refrigerants.
Doroshenko, L.I.
Academy of Science, Moscow (1962) 62 pp. 10 tab 26 ref
IR 15106
AS RI C6 D1 E5 F0 G2 G2
Refrigerant, law of corresponding states, vapor pressure, liquid, density, saturated liquid, heat of vaporization
- 21210 Statistical calculation of the thermodynamic function of substances absorbed on graphite. Part 1. Heat capacity of argon and benzene at low coverage.
Kiselev, A.V., Pustikov, D.P.
Trans. Faraday Soc., 55, 1450-45 (1959) 2 tab 16 ref
- 21247 Research on rheologic and thermodynamic properties of solid and slush hydrogen.
Cook, G.A., Dwyer, R.P., Jenkins, A.C., Linds Corp., Tarrytown, N.Y., Quart. Rept. No. 5 (Apr 1964) Contr. No. AF33(67)-11000, 30 p 5 fig 9 tab 10 ref
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