

# **Constants of Inorganic Substances**

## **A Handbook**

*Revised and Augmented Edition*

**R.A. Lidin**  
**L.L. Andreeva**  
**V.A. Molochko**

**Edited by Rostislav A. Lidin**

*Professor of Inorganic Chemistry  
M.V. Lomonosov Academy of Fine  
Chemical Technology  
Moscow, Russia*



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## **Constants of Inorganic Substances: Handbook, Revised and Augmented Edition**

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*This book is dedicated to the memory  
of outstanding pedagogues and scientists,  
and our dear teachers, Professors  
K. V. Astakhov, M. Kh. Karapet'yants,  
and E. S. Sarkisov.*

## Names and Symbols

English name	Latin name	Symbol	English name	Latin name	Symbol
Actinium	Actinium	<sup>89</sup> Ac	Europium	Europium	<sup>63</sup> Eu
Aluminum	Aluminium	<sup>13</sup> Al	Fermium	Fermium	<sup>100</sup> Fm
Americium	Americium	<sup>95</sup> Am	Fluorine	Fluorum	<sup>9</sup> F
Antimony	Stibium	<sup>51</sup> Sb	Francium	Francium	<sup>87</sup> Fr
Argon	Argon	<sup>18</sup> Ar	Gadolinium	Gadolinium	<sup>64</sup> Gd
Arsenic	Arsenicum	<sup>33</sup> As	Gallium	Gallium	<sup>31</sup> Ga
Astatine	Astatium	<sup>85</sup> At	Germanium	Germanium	<sup>32</sup> Ge
Barium	Barium	<sup>56</sup> Ba	Gold	Aurum	<sup>79</sup> Au
Berkelium	Berkelium	<sup>97</sup> Bk	Hafnium	Hafnium	<sup>72</sup> Hf
Beryllium	Beryllium	<sup>4</sup> Be	Helium	Helium	<sup>2</sup> He
Bismuth	Bismuthum	<sup>83</sup> Bi	Holmium	Holmium	<sup>67</sup> Ho
Boron	Borum	<sup>5</sup> B	Hydrogen	Hydrogenium	<sup>1</sup> H
Bromine	Bromum	<sup>35</sup> Br	Indium	Indium	<sup>49</sup> In
Cadmium	Cadmium	<sup>48</sup> Cd	Iodine	Iodum	<sup>53</sup> I
Calcium	Calcium	<sup>20</sup> Ca	Iridium	Iridium	<sup>77</sup> Ir
Californium	Californium	<sup>98</sup> Cf	Iron	Ferrum	<sup>26</sup> Fe
Carbon	Carboneum	<sup>6</sup> C	Krypton	Krypton	<sup>36</sup> Kr
Cerium	Cerium	<sup>58</sup> Ce	Kurchatovium	Kurtchatovium	<sup>104</sup> Ku
Cesium	Caesium	<sup>55</sup> Cs	Lanthanum	Lanthanum	<sup>57</sup> La
Chlorine	Chlorum	<sup>17</sup> Cl	Lawrencium	Lawrencium	<sup>103</sup> Lr
Chromium	Chromium	<sup>24</sup> Cr	Lead	Plumbum	<sup>82</sup> Pb
Cobalt	Cobaltum	<sup>27</sup> Co	Lithium	Lithium	<sup>3</sup> Li
Copper	Cuprum	<sup>29</sup> Cu	Lutetium	Lutetium	<sup>71</sup> Lu
Curium	Curium	<sup>96</sup> Cm	Magnesium	Magnesium	<sup>12</sup> Mg
Dysprosium	Dysprosium	<sup>66</sup> Dy	Manganese	Manganum	<sup>25</sup> Mn
Einsteinium	Einsteinium	<sup>99</sup> Es	Mendelevium	Mendelevium	<sup>101</sup> Md
Erbium	Erbium	<sup>68</sup> Er	Mercury	Mercurius	<sup>80</sup> Hg

## of the Elements

English name	Latin name	Symbol	English name	Latin name	Symbol
Molybdenum	Molybdaenum	$_{42}\text{Mo}$	Samarium	Samarium	$_{62}\text{Sm}$
Neodymium	Neodymium	$_{60}\text{Nd}$	Scandium	Scandium	$_{21}\text{Sc}$
Neon	Neon	$_{10}\text{Ne}$	Selenium	Selenium	$_{34}\text{Se}$
Neptunium	Neptunium	$_{93}\text{Np}$	Silicon	Silicium	$_{14}\text{Si}$
Nickel	Niccolum	$_{28}\text{Ni}$	Silver	Argentum	$_{47}\text{Ag}$
Nielsbohrium	Nielsbohrium	$_{105}\text{Ns}$	Sodium	Natrium	$_{11}\text{Na}$
Niobium	Niobium	$_{41}\text{Nb}$	Strontium	Strontium	$_{38}\text{Sr}$
Nitrogen	Nitrogenium	$_{7}\text{N}$	Sulfur	Sulfur	$_{16}\text{S}$
Nobelium	Nobelium	$_{102}\text{No}$	Tantalum	Tantalum	$_{73}\text{Ta}$
Osmium	Osmium	$_{76}\text{Os}$	Technetium	Technetium	$_{43}\text{Tc}$
Oxygen	Oxygenium	$_{8}\text{O}$	Tellurium	Tellurium	$_{52}\text{Te}$
Palladium	Palladium	$_{46}\text{Pd}$	Terbium	Terbium	$_{65}\text{Tb}$
Phosphorus	Phosphorus	$_{15}\text{P}$	Thallium	Thallium	$_{81}\text{Tl}$
Platinum	Platinum	$_{78}\text{Pt}$	Thorium	Thorium	$_{90}\text{Th}$
Plutonium	Plutonium	$_{94}\text{Pu}$	Thulium	Thulium	$_{69}\text{Tm}$
Polonium	Polonium	$_{84}\text{Po}$	Tin	Stannum	$_{50}\text{Sn}$
Potassium	Kalium	$_{19}\text{K}$	Titanium	Titanium	$_{22}\text{Ti}$
Praseodymium	Praseodymium	$_{59}\text{Pr}$	Tungsten	Wolframium	$_{74}\text{W}$
Promethium	Promethium	$_{61}\text{Pm}$	Uranium	Uranium	$_{92}\text{U}$
Protactinium	Protactinium	$_{91}\text{Pa}$	Vanadium	Vanadium	$_{23}\text{V}$
Radium	Radium	$_{88}\text{Ra}$	Xenon	Xenon	$_{54}\text{Xe}$
Radon	Radon	$_{86}\text{Rn}$	Ytterbium	Ytterbium	$_{70}\text{Yb}$
Rhenium	Rhenium	$_{75}\text{Re}$	Yttrium	Yttrium	$_{39}\text{Y}$
Rhodium	Rhodium	$_{45}\text{Rh}$	Zinc	Zincum	$_{30}\text{Zn}$
Rubidium	Rubidium	$_{37}\text{Rb}$	Zirconium	Zirconium	$_{40}\text{Zr}$
Ruthenium	Ruthenium	$_{44}\text{Ru}$			

## Periodic Table of the Elements

	A		I		B											
1	<b>H</b>															
	1.008 Hydrogen															
2	<b>Li</b>		<b>Be</b>		<b>B</b>		<b>C</b>		<b>N</b>							
	6.941 Lithium		9.012 Beryllium		10.811 Boron		12.011 Carbon		14.007 Nitrogen							
3	<b>Na</b>		<b>Mg</b>		<b>Al</b>		<b>Si</b>		<b>P</b>							
	22.990 Sodium		24.305 Magnesium		26.982 Aluminum		28.086 Silicon		30.974 Phosphorus							
4	<b>K</b>		<b>Ca</b>		21		<b>Sc</b>		22		<b>Ti</b>		23		<b>V</b>	
	39.098 Potassium		40.078 Calcium		44.956 Scandium		47.88 Titanium		50.942 Vanadium							
4	29		<b>Cu</b>		30		<b>Zn</b>		31		<b>Ga</b>		32		<b>Ge</b>	
	63.546 Copper		65.39 Zinc		69.723 Gallium		72.61 Germanium		74.922 Arsenic							
5	<b>Rb</b>		<b>Sr</b>		39		<b>Y</b>		40		<b>Zr</b>		41		<b>Nb</b>	
	85.468 Rubidium		87.62 Strontium		88.906 Yttrium		91.224 Zirconium		92.906 Niobium							
5	47		<b>Ag</b>		48		<b>Cd</b>		49		<b>In</b>		50		<b>Sn</b>	
	107.868 Silver		112.411 Cadmium		114.82 Indium		118.710 Tin		121.75 Antimony							
6	<b>Cs</b>		<b>Ba</b>		56		<b>La - Lu</b>		72		<b>Hf</b>		73		<b>Ta</b>	
	132.905 Cesium		137.327 Barium		* Lanthanoids		178.49 Hafnium		180.948 Tantalum							
6	79		<b>Au</b>		80		<b>Hg</b>		81		<b>Tl</b>		82		<b>Pb</b>	
	196.967 Gold		200.59 Mercury		204.383 Thallium		207.2 Lead		208.980 Bismuth							
7	<b>Fr</b>		<b>Ra</b>		88		<b>Ac - Lr</b>		104		<b>Ku</b>		105		<b>Ns</b>	
	223.020 Francium		226.025 Radium		** Actinoids		[261] Kurchatovium		[262] Nielsbohrium							

### \* Lanthanoids

57	<b>La</b>	58	<b>Ce</b>	59	<b>Pr</b>	60	<b>Nd</b>	61	<b>Pm</b>	62	<b>Sm</b>	63	<b>Eu</b>	64	<b>Gd</b>
138.906		140.115		140.908		144.24		144.913		150.36		151.965		157.25	
Lanthanum		Cerium		Praseodymium		Neodymium		Promethium		Samarium		Europium		Gadolinium	

### \*\* Actinoids

89	<b>Ac</b>	90	<b>Th</b>	91	<b>Pa</b>	92	<b>U</b>	93	<b>Np</b>	94	<b>Pu</b>	95	<b>Am</b>	96	<b>Cm</b>
227.028		232.038		231.036		238.029		237.048		244.064		243.061		247.070	
Actinium		Thorium		Protactinium		Uranium		Neptunium		Plutonium		Americium		Curium	

According to IUPAC Commission (1995 year):

element 104 Dubnium Db	element 107 Bohrium Bo
element 105 Joliotium JI	element 108 Hahnium Hn
element 106 Rutherfordium Rf	element 109 Meitnerium Mt

			A VII B		A VIII B																			
			(H)		He 2 4.003 Helium		<table border="1"> <tr> <td colspan="2">Symbol</td> <td colspan="2">Atomic number</td> </tr> <tr> <td colspan="2">Na</td> <td colspan="2">11</td> </tr> <tr> <td colspan="2">Sodium</td> <td colspan="2">22.990</td> </tr> <tr> <td colspan="2">Name</td> <td colspan="2">Relative atomic mass</td> </tr> </table>		Symbol		Atomic number		Na		11		Sodium		22.990		Name		Relative atomic mass	
Symbol		Atomic number																						
Na		11																						
Sodium		22.990																						
Name		Relative atomic mass																						
A VI B			O 8 15.999 Oxygen		F 9 18.998 Fluorine		Ne 10 20.180 Neon																	
S 16 32.066 Sulfur			Cl 17 35.453 Chlorine		Ar 18 39.948 Argon																			
24 Cr 51.996 Chromium		25 Mn 54.938 Manganese		26 Fe 55.847 Iron		27 Co 58.933 Cobalt		28 Ni 58.69 Nickel																
Se 34 78.96 Selenium		Br 35 79.904 Bromine		Kr 36 83.80 Krypton																				
42 Mo 95.94 Molybdenum		43 Tc 97.907 Technetium		44 Ru 101.07 Ruthenium		45 Rh 102.906 Rhodium		46 Pd 106.42 Palladium																
Te 52 127.60 Tellurium		I 53 126.904 Iodine		Xe 54 131.29 Xenon																				
74 W 183.85 Tungsten		75 Re 186.207 Rhenium		76 Os 190.2 Osmium		77 Ir 192.22 Iridium		78 Pt 195.08 Platinum																
Po 84 208.982 Polonium		At 85 209.987 Astatine		Rn 86 222.018 Radon																				
106 [263]		107 [262]		108 [265]		109 [266]																		
—		—		—		—		—																

65 Tb 158.925 Terbium	66 Dy 162.50 Dysprosium	67 Ho 164.930 Holmium	68 Er 167.26 Erbium	69 Tm 168.934 Thulium	70 Yb 173.04 Ytterbium	71 Lu 174.967 Lutetium
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97 Bk 247.070 Berkelium	98 Cf 251.080 Californium	99 Es 252.083 Einsteinium	100 Fm 257.095 Fermium	101 Md 258.099 Mendelevium	102 No 259.101 Nobelium	103 Lr 260.105 Lawrencium
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Relative atomic masses are based on  $^{12}\text{C} = 12$  and conform to the 1987 IUPAC report values rounded to the third decimal figure. Number in [ ] indicate the most stable isotope.



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## Abbreviations and Notations

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amor	amorphous	r	readily soluble
bl	blue	rhom	(ortho)rhombic
blk	black	sk-bl	sky-blue
bp	boiling point	sld	solid
brn	brown	soft	softening
cl	colorless	soln	aqueous solution
cub	cubic	subl	sublimation
d	difficultly soluble	<i>t</i>	with heating
dec	decomposes, with decomposition	tetr	tetragonal
dk	dark	tricl	triclinic
grn	green	trig	trigonal
hex	hexagonal	viol	violet
hydr	(crystal) hydrate	wh	white
i	insoluble	yel	yellow
lq	liquid	→	converts into
lt	light	+/-	react/does not react
mon	monoclinic	<	less than
mp	melting point	>	greater than
<i>p</i>	under excess pressure	∞	miscible in all proportions
psv	passivates	...	no data available

# Preface

---

Inorganic chemistry comprises several dozens of thousands of compounds. This handbook includes the data on more than 4000 substances, ions, and radicals chosen with due regard for their industrial and scientific importance.

The Handbook consists of six sections arranged in the conventional tabulated form. The first Section gives the formulas and the names of substances, their relative molecular masses, and important physical properties such as phase-transition temperature, color, aggregate state, and density along with the data on substance reactivity (chemical properties) with respect to most commonly used solutions and reagents (water, ethanol, hydrochloric, sulfuric, and nitric acids, sodium hydroxide, and ammonia hydrate). The entry that describe naturally occurring substances (minerals) also include their mineralogical names, symmetry, and hardness.

The following sections of the Handbook characterize the atomic, molecular, and thermodynamic properties of atoms, molecules (formula units), radicals, and cations and anions of those inorganic substances that can exist either as individual substances or in aqueous solution. There are also data on relative atomic masses of elements, properties of natural and radioactive isotopes, electronic configurations of atoms, energies of ionization, and affinities to electrons for atoms and molecules, binding energies and bond lengths, structure (geometric form) of constituent molecules and ions of various substances, including coordination compounds. The Handbook also lists thermodynamic constants of the substances in all their aggregate states (gas, liquid, solid state, aqueous solution), redox potentials, acidity and basicity constants, stability constants of complexes in aqueous solution and solubility in water.

The last Section deals with the nomenclature of inorganic substances. The rules to construct systematic chemical formulas of inorganic substances and their names in accordance with the IUPAC recommendations are formulated and exemplified. There are also detailed lists of nonsystematic names of substances and classification names of groups of substances still widely used in chemical literature.

All the tables in all the Sections are composed in accordance with the following principle. The chemical formulas (the first column) are arranged in the alphabetical order of the symbols of constituent elements that constitute these formulas. Each table is preceded by a concise introduction containing modern definitions of chemical terms and notions and all the necessary comments to the data included into the Section.

All the constants cited in the Handbook can be classified as the informative reference data. The values of the constants are taken from the major reference editions. In the cases where such highly reliable data were absent, the preference was given to most consistent of the known data. The numerical values are given without indicating the errors of their determination because they were rounded off within the accuracy necessary for practical calculations and estimations.

All the materials included into the American edition were revised and complemented with modern data; the relative molecular masses were brought into correspondence with the International Table published in 1987. Two new Sections were written specially for the American edition: "Index of Minerals" and "Enthalpy and Entropy of Phase Transitions".

When writing this book, the authors used many years of experience of scientific and pedagogical work at the Lomonosov Academy of Fine Chemical Technology under the guidance of Professors K. V. Astakhov, M. Kh. Karapet'yants, and E. S. Sarkisov. The authors hope that this book will be a worthy tribute to their memory and will pass the test of time.

The authors will be grateful for all the critical remarks and suggestions that can improve this Handbook.

*R. A. Lidin  
L. L. Andreeva  
V. A. Molochko*



# 1

## Inorganic Substances. Physical Properties and Reactivity

---

### Formulas and Names [31, 32, 37]

The *formulas* of substances are written in conformity with the nomenclature rules (cf. Sections 6.2.1., 6.3.1., 6.4., and 6.5.). For compounds having a complex anion or a heteropolyanion, the formulas are written in an inverted form (anion, cation). e.g.,  $[\text{Ag}(\text{CN})_2]\text{K}$  instead of  $\text{K}[\text{Ag}(\text{CN})_2]$ , so that all complex compounds with the central silver atom are to be found among other silver-containing compounds, etc.

The formulas of crystallohydrates are placed either on a separate line or combined with the formulas of anhydrous substances depending on the completeness of information for a given substance. That the same formula is not infrequently employed for crystallohydrates and their respective anhydrous compounds can be explained by the fact that the principal (anhydrous) substance can not be obtained by subjecting the crystallohydrate to thermal dehydration which causes crystallohydrate decomposition without transition to the anhydrous state. The number of water molecules generally reflects the result of crystallization from an aqueous solution at 20°C.

The composition of aquacomplexes (complex compounds that contain aqaligands only in the inner sphere) is likewise rendered by the crystallohydrate formulas, in so far as the number of crystal water molecules not invariably corre-

sponds to the coordination number of the central atom, while no information on the division of hydration zones is available. If, however, a particular compound is known to be a complex compound containing in the inner sphere both water and other ligands, its composition should be represented by a coordination formula. Thus, the compound having the composition  $\text{CrBr}_3 \cdot 6\text{H}_2\text{O}$  should be rendered by the formula  $[\text{Cr}(\text{H}_2\text{O})_4\text{Br}_2]\text{Br} \cdot (2\text{H}_2\text{O})$ .

The berthollide state is indicated when the degree of departure from stoichiometry is known (cf. Section 6.5), and in this case no general berthollide notation ( $\approx$ ) is used.

The *names* of substances placed after formulas are recommended [cf. Sections 6.2.2., 6.2.3., and 6.3.2.]. The names of crystallohydrates are not listed, since they can be readily formed in accordance with the examples in Sec. 6.4. The names of berthollides, in which the content of elements is indicated using the letter  $x$ , e.g.,  $\text{Cu}_{2-x}\text{O}$ , correspond to the ideal composition of the compound (Sec. 6.5), so the above berthollide shall be named copper<sub>( $\eta$ )</sub> oxide ( $\text{Cu}_2\text{O}$ ).

Detailed information as regards the types of crystal systems (syngonies) and on possible polymorphism phenomena is presented in "Index of minerals" in this Part and also in Sections 4.1., 4.2. "Index of trivial names" at the end of this Part lists non-nomenclature names widely used in the technical literature to the present day (cf. also Sec. 6.6.).

### Relative Molecular Masses $M_r$ [1, 37]

The values of relative molecular masses (in amu) are rounded off to the second decimal figure (or to the third decimal figure for elementary substances, provided the value of the relative atomic mass of the respective element is equal to or greater than this accuracy, (cf. Sec. 2.1).

If the formula of a crystallohydrate is placed together with the formula of an anhydrous substance on the same line, the listed value  $M_r$  pertains to the anhydrous substance. Thus, for  $\text{Al}(\text{BrO}_3)_3 \cdot (9\text{H}_2\text{O})$  the listed value of  $M_r = 410.69$  corresponds to the anhydrous aluminum bromate  $\text{Al}(\text{BrO}_3)_3$ . In the case of berthollides whose composition is described using the letter  $x$ , the listed values of  $M_r$  pertain to the ideal composition; for example, for  $\text{Cu}_{2-x}\text{O}$  the cited value of  $M_r = 143.09$  corresponds to the formula  $\text{Cu}_2\text{O}$ .

### Phase Transition Temperature [2–5, 28, 30, 36]

The following phase transitions are considered: melting (reverse transition – crystallization from melt), boiling (equilibrium condensation) and sublimation (desublimation), and also the formation of chemically new phases in the thermal decomposition of substances without melting or boiling. In the case of amorphous substances, their softening point is listed.

The values of phase transition temperatures are listed in the increasing order and expressed in Celsius degrees ( $^{\circ}\text{C}$  is omitted). The listed temperatures refer, as a rule, to the standard atmospheric pressure.

The notation " $-\text{H}_2\text{O } 200$ " shows that the crystallohydrate in question loses at the indicated temperature all of the crystal water and converts into an anhydrous substance.

The notation " $486 \rightarrow \text{AgCl}$ " in the case of  $\text{AgClO}_4 \cdot (\text{H}_2\text{O})$  means that, on decomposition, said substance yields a solid residue of the composition  $\text{AgCl}$  (gaseous phases – by-products of decomposition – are generally not indicated).

More detailed information on phase transition temperatures is given in Sec. 4.2.

### **Color and Density** [3–10, 27–29, 35]

The specified *color* generally relates to the state of aggregation of a substance at room temperature, but in some instances it pertains to a range of temperatures, in which the given state of aggregation exists. If the substance is a liquid or gas, the state of aggregation is listed next to the color notation (for solids, the state of aggregation is not recorded, but is implied).

The *density* of solid substances and liquids is expressed in  $\text{g/cm}^3$  (the listed density of solids is that at room temperature, while the temperature, at which the density of a liquid was determined, is given in a superscript), and the density of gases is given in  $\text{g/l}$  at normal physical conditions.

### **Solvents and Reagents** [3–4, 6–10, 28–30, 33, 35, 36]

The reactivity of substances towards common liquid solvents and reagents is characterized as follows.

A substance is regarded to be *soluble* in a given solvent if its interaction with the solvent involves only crystal lattice destruction (for solids), solvation (hydration), electrolytic dissociation, and reversible protolysis. All of the substances that are dissolved in a given solvent are divided into three groups: *readily soluble* (yield at least 0.1M solutions), *difficultly soluble* (yield 0.1–0.001M solutions), and *practically insoluble* substances (yield maximum 0.001M solutions).

A substance is considered as *reacting* with a given reagent if their interaction is an irreversible chemical reaction. As a result of this reaction, the substance passes into a solution not in the molecular or ionic form (as in the case of soluble substances), but as reaction products characterized by their own solubility in the given solvent. Depending on the conditions (temperature, reactant and solvent amounts), the reaction can yield not only a single-phase liquid solution of reaction products, but also a multiphase system (solution + precipitate + gas). If there occurs no chemical reaction between a substance and a reagent, the substance is assumed to be non-reactive.

This line, therefore, shows whether a substance retains its chemical individuality on contact with a specific solvent or reagent.

The solubility of substances is characterized for a *cold* (at room temperature, viz., 18–25°C) and a *warm solvent* (80–100°C) solvent, the solubilities characteristics being separated by a slash (first comes solubility in a cold solvent, and then that in a hot solvent). If solubilities in the cold and the hot solvent are

qualitatively the same, only one common solubility characteristic is listed. Solubility of substances in HCl, H<sub>2</sub>SO<sub>4</sub>, HNO<sub>3</sub>, NaOH, and NH<sub>3</sub>·H<sub>2</sub>O solutions is listed for dilute solutions only.

The presence or absence of a reaction between a substance and a reagent is indicated by "+" or "-", respectively. For water and alcohol the reaction of a substance with a cold and a hot reagent is indicated, while for other reagents the reaction of a substance with a dilute (10%) and a concentrated solution is stated, the reactivity characteristics being separated by a slash. When the reactivities are identical, one common sign is used in either case.

More detailed (quantitative) data on the solubility of solid substances in water (readily soluble and difficultly soluble substances), as well as on the composition of crystallohydrates formed from an aqueous solution are presented in Section 5.2. The solubility of practically water-insoluble substances is evaluated in Section 4.6. Information on the solubility of liquid and gaseous substances in water is given in Section 5.3.

The examples of employing the data included in the column "water" are presented below. Silver, silver<sup>(n)</sup> acetate, aluminum and tetraaluminum tricarbide display the following properties towards water: Ag "-"; AgCH<sub>3</sub>COO "d/r"; Al "psv"; Al<sub>4</sub>C<sub>3</sub> "+". The sign "-" for Ag indicates the absence of silver reaction with water (for the Ag<sub>2</sub>O/Ag pair  $E^\circ > 0$ , cf. Section 4.3). The salt AgCH<sub>3</sub>COO is difficultly soluble ("d" ahead of the slash), but readily soluble in hot water ("r" behind the slash), these characteristics being corroborated by quantitative data (Sections 4.6, 5.2). For Al, the notation "psv" (passivation) means that, on contact with water, the surface of aluminum becomes coated with a stable film, thereby preventing the aluminum-water reaction, although this interaction is thermodynamically feasible (for the Al(OH)<sub>3</sub>/Al pair  $E^\circ < 0$ ; cf. Section 4.3). Al<sub>4</sub>C<sub>3</sub> undergoes with water an irreversible reaction (the sign "+"), viz., irreversible hydrolysis. This reaction yields Al(OH)<sub>3</sub> and CH<sub>4</sub>; the first product is a solid substance which is practically insoluble in water, while the second product comprises a difficultly soluble gas (cf. Nos. 72, 419 in this table and Sections 4.6., 5.3.).

The same substances display the following properties in an aqueous solution of sulfuric acid: Ag "-/+"; AgCH<sub>3</sub>COO "+"; Al "+"; Al<sub>4</sub>C<sub>3</sub> "+". Silver fails to react with H<sub>2</sub>SO<sub>4</sub> in a dilute solution (the sign "-" ahead of the slash), since for the Ag<sub>2</sub>SO<sub>4</sub>/Ag pair  $E^\circ > 0$  (cf. Section 4.3.), but reacts with H<sub>2</sub>SO<sub>4</sub> in a concentrated solution (the sign "+" behind the slash) and yields the slightly soluble solid salt, Ag<sub>2</sub>SO<sub>4</sub>, and SO<sub>2</sub> gas (for properties of these products cf. Nos. 55, 2467 in table and also Sections 4.6., 5.2.). Silver<sup>(n)</sup> acetate AgCH<sub>3</sub>COO irreversibly reacts with both dilute and concentrated solutions of H<sub>2</sub>SO<sub>4</sub> (the sign "+"), the reaction products being Ag<sub>2</sub>SO<sub>4</sub> and CH<sub>3</sub>COOH (cf. No. 425 in this table and Section 4.4.). Aluminum reacts with a solution of H<sub>2</sub>SO<sub>4</sub> (the sign "+") and yields, apart from the soluble salt Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> (cf. No. 121 in this table and also Section 5.2), also gases, namely H<sub>2</sub> in a dilute solution and SO<sub>2</sub> in a concentrated solution of H<sub>2</sub>SO<sub>4</sub>. Tetraaluminum tricarbide, Al<sub>4</sub>C<sub>3</sub>, reacts with the H<sub>2</sub>SO<sub>4</sub> + H<sub>2</sub>O mixture of

any composition (the sign "+"), since it undergoes complete hydrolysis even in pure water (see above); the reaction products are  $\text{Al}_2(\text{SO}_4)_3$  and  $\text{CH}_4$ .

It should be noted that the data listed in this column provide an answer only as regards the presence or absence of dissolution or/and a chemical reaction when substances contact solvents/reagents. To evaluate more fully how substances behave in the presence of solutions or reagents, recourse should be made to information on the chemistry of elements and compounds thereof (selected monographs providing this type of information are listed in References at the end of this handbook) and also to the data contained in other Sections of the present reference handbook.

### Formula Index

Formula index at the end of this table is useful for finding compounds whose formulas are either unknown or inaccurate. For example, it is desired to find the compound named sodium chlorate (if the name is obsolete, its nomenclature equivalent should be established from the data of Section 6.8.). One route comprises seeking this compound among Na-containing compounds having Nos. 1692–1828 (137 lines in the table), but is excessively laborious. Under the heading "Cl", none of the above numbers are listed because in the compound of interest chlorine is contained in the anion (chlorate). If chlorate is known to contain oxygen and chlorine, the compounds in the rubric "Cl" can be excluded from consideration, and in other rubrics (for  $\text{ClO}^-$ ,  $\text{ClO}_2^-$ ,  $\text{ClO}_3^-$ , and  $\text{ClO}_4^-$  ions) there are compounds having Nos. 1723, 1724, 1725 and 1726–1727 which are embraced by the Nos. 1692–1828 interval for Na, so the sought-for compound can be found among five compounds, the compound under No. 1725 being the chlorate of interest. Another example comprises finding in the table a compound having the formula  $\text{Fe}_3\text{O}_4$ . Among compounds of the formula  $\text{Fe}_x\text{O}_y$  (Nos. 965–968), no such formula is present, but the interval of the rubric "Fe" (Nos. 900–987) includes No. 947 from the rubric "O<sup>2-</sup>". The compound No. 947 in the table is the sought-for compound, the correct formula being  $(\text{Fe}^{\text{II}}\text{Fe}_2^{\text{III}})\text{O}_4$ .

### Index of Minerals

Index of minerals at the end of this Part lists various minerals, inclusive those corresponding to the naturally occurring substances cited in the table.

The crystal system (syngony) and name are indicated for each mineral. Also listed are hardness values in compliance with the modified Mohs scale, wherein use is made of the following minerals as hardness standards:

- |  |  |   |
|--|--|---|
| 1 - Talc $\text{Mg}_3(\text{Si}_2\text{O}_5)_2(\text{OH})_2$ | 5 - Apatite $\text{Ca}_5(\text{PO}_4)_3(\text{Cl},\text{OH},\text{F})$ | 8 - Topaz $\text{Al}_2(\text{SiO}_4)(\text{OH},\text{F})_2$ |
| 2 - Gypsum $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$         | Scheelite $\text{CaWO}_4$  | 9 - Corundum $\text{Al}_2\text{O}_3$                        |
| Halite NaCl  | 6 - Orthoclase $\text{K}(\text{AlSi}_3\text{O}_8)$                     | 10 - Diamond C (cub)  |
| 3 - Calcite $\text{CaCO}_3$ (trig)                           | Magnetite $(\text{Fe}^{\text{II}}\text{Fe}_2^{\text{III}})\text{O}_4$  |   |
| Galena $\text{PbS}_{1-x}$                                    | 7 - $\alpha$ -Quartz $\alpha\text{-SiO}_2$ (trig)                      |   |
| 4 - Fluorite $\text{CaF}_2$                                  |  |   |

## 6 CONSTANTS OF INORGANIC SUBSTANCES

No.	Formula and name	$M_r$	Phase transition temperature
1	<b>Ac Actinium</b>	227.028	mp 1050, bp 3300
2	AcBr <sub>3</sub> Actinium(III) bromide	466.74	subl 800
3	AcCl <sub>3</sub> Actinium(III) chloride	333.39	subl 960
4	AcF <sub>3</sub> Actinium(III) fluoride	284.02	...
5	Ac(NO <sub>3</sub> ) <sub>3</sub> Actinium(III) nitrate	413.04	600 → Ac <sub>2</sub> O <sub>3</sub>
6	Ac <sub>2</sub> O <sub>3</sub> Actinium(III) oxide	502.05	mp ca. 2500
7	Ac(OH) <sub>3</sub> Actinium(III) hydroxide	278.05	1100 → Ac <sub>2</sub> O <sub>3</sub>
8	<b>Ag Silver</b>	107.868	mp 961.93; bp 2170
9	(Ag <sup>I</sup> Ag <sup>III</sup> )O <sub>2</sub> Silver(0)-silver(III) dioxide	247.73	>100 → Ag
10	Ag <sub>3</sub> AsO <sub>3</sub> Silver(I) orthoarsenite	446.52	mp 150 dec
11	Ag <sub>3</sub> AsO <sub>4</sub> Silver(I) arsenate	462.52	mp ca. 830 dec
12	AgAsS <sub>2</sub> Silver(I) dithiometarsenite	246.92	mp 417, dec <i>t</i>
13	Ag <sub>3</sub> AsS <sub>3</sub> Silver(I) trithioorthoarsenite	494.72	mp 488, dec <i>t</i>
14	AgBr Silver(I) bromide	187.77	mp 432, bp 1505 dec
15	AgBrO <sub>3</sub> Silver(I) bromate	235.77	dec ca. 360
16	Ag <sub>2</sub> C <sub>2</sub> Silver(I) acetylide	239.76	>20 → Ag <sub>2</sub> C
17	AgCH <sub>3</sub> COO Silver(I) acetate	166.91	>300 → Ag
18	AgCN Silver(I) cyanide	133.89	mp ca. 350, dec <i>t</i>
19	Ag <sub>2</sub> CN <sub>2</sub> Silver(I) cyanamide	255.76	dec <i>t</i>
20	[Ag(CN) <sub>2</sub> ] <sub>2</sub> K Potassium dicyanoargentate(I)	199.00	dec 250–420
21	AgCNO Silver(I) fulminate	149.89	dec >120
22	Ag <sub>2</sub> CO <sub>3</sub> Silver(I) carbonate	275.74	218 → Ag
23	Ag <sub>2</sub> C <sub>2</sub> O <sub>4</sub> Silver(I) oxalate	303.75	110 → Ag <sub>2</sub> CO <sub>3</sub>
24	AgCl Silver(I) chloride	143.32	mp 455, bp 1550
25	AgClO <sub>2</sub> Silver(I) chlorite	175.32	>250 → AgCl, AgClO <sub>4</sub>
26	AgClO <sub>3</sub> Silver(I) chlorate	191.32	mp 230, dec 270
27	AgClO <sub>4</sub> (·H <sub>2</sub> O) Silver(I) perchlorate	207.32	486 → AgCl
28	Ag <sub>2</sub> CrO <sub>4</sub> Silver(I) chromate	331.73	<i>t</i> → Ag <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>
29	Ag <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> Silver(I) dichromate	431.72	<i>t</i> → Ag <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>
30	AgF (·2H <sub>2</sub> O) Silver(I) fluoride	126.87	mp 435, bp ca. 1000
31	AgF <sub>2</sub> Silver(II) fluoride	145.86	mp 690, dec >700
32	Ag <sub>2</sub> F Disilver fluoride	234.73	>115 → Ag <sub>2</sub> , AgF
33	Ag(HCOO) Silver(I) formate	152.89	>300 → Ag
34	Ag <sub>2</sub> H <sub>3</sub> IO <sub>6</sub> Silver(I) trihydroorthoperiodate	441.66	mp 60 dec
35	Ag <sub>2</sub> H <sub>4</sub> TeO <sub>6</sub> Silver(I) tetrahydroorthotellurate	443.36	dec >200
36	AgI Silver(I) iodide	234.77	mp 554, bp 1506 ( <i>p</i> )
37	AgIO <sub>3</sub> Silver(I) iodate	282.77	mp >200, dec <i>t</i>
38	AgIO <sub>4</sub> Silver(I) metaperiodate	298.77	dec 180
39	Ag <sub>5</sub> IO <sub>6</sub> Silver(I) orthoperiodate	762.24	dec >320
40	AgMnO <sub>4</sub> Silver(I) permanganate	226.80	>160 → Ag <sub>2</sub> MnO <sub>2</sub>
41	AgN <sub>3</sub> Silver(I) azide	149.89	mp 252, 300 → Ag
42	Ag <sub>3</sub> N Trisilver nitride	337.61	ca. 165 → Ag
43	AgNCS Silver(I) thiocyanate	165.95	dec 170
44	AgNO <sub>2</sub> Silver(I) nitrite	153.87	140–160 → Ag
45	AgNO <sub>3</sub> Silver(I) nitrate	169.87	mp 209.7; ca. 300 → Ag
46	Ag <sub>2</sub> N <sub>2</sub> O <sub>2</sub> Silver(I) hyponitrite	275.75	110 → Ag
47	Ag <sub>2</sub> O Silver(I) oxide	231.74	>160 → Ag
48	AgOCN Silver(I) cyanate	149.89	dec 147

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1	wh, 10.07	+	+	+	+	+	+	+
2	wh, 5.85	r	r	-	-/+	-/+	+	+
3	wh, 4.81	d	i	d/+	+	-	+	+
4	wh, 7.88	i	i	-	-/+	-	-	-
5	wh	r	r	-	-	-	+	+
6	wh, 9.19	-	-	+	+	+	-/+	-
7	wh	i	i	+	+	+	i	i
8	wh, 10.494	-	-	-	-/+	+	-	-
9	dk-grey, 7.48	-	-	-/+	-/+	+	-/+	-/+
10	lt-yel	i	i	+	+	r/+	i/+	i/+
11	dk-brn, 6.66	i	i	+	+	i/+	i/+	i/+
12	grey-blk	i	...	-	-/+	-/+	+	+
13	dk-red, 5.53	i	...	-	-/+	+	-/+	-/+
14	lt-yel, 6.47	i	i	i	i/+	i	-/+	-/+
15	wh, 5.21	d	i	+	+	-	+	+
16	wh	+	+	+	+	+	+	+
17	wh, 3.26	d/r	i/d	+	+	-	+	+
18	wh, 3.95	i	i	i	i/+	i/+	-/+	-/+
19	yel	i	i	+	+	+	-/+	-/+
20	wh, 2.36	r	r	-	-/+	-/+	-	-
21	grey	d/r	i/d	+	+	-/+	+	+
22	lt-yel, 6.08	i/d	i	+	+	+	-/+	+
23	wh, 5.03	i	i	-/+	-/+	-/+	-/+	+
24	wh, 5.56	i	i	i	i	i	i/+	+
25	yel	r	d	+	+	+	+	+
26	wh, 4.43	r	i	+	+	-	+	+
27	wh, 2.81	r	r	+	+	-	+	+
28	red, 5.63	i	i	+	+	+	i/+	i/+
29	dk-red, 4.77	d/+	...	+	+	-/+	-/+	+
30	wh, 5.85	r	r	+	+	-/+	+	+
31	lt-bl, 4.57	+	+	+	+	+	+	-/+
32	yel-grn, 8.64	+	i	+	+	+	+	+
33	wh	i	...	-/+	-/+	+	-/+	+
34	yel, 5.68	d	i	+	d/+	-	+	+
35	yel	i	i	-/+	-/+	+	-/+	+
36	yel, 5.67	i	r	-	-/+	-/+	i	i
37	wh, 5.53	i	...	-/+	-	-	-	-/+
38	yel, 5.57	+	...	+	+	+	+	+
39	blk	i	i	-/+	-/+	+	-/+	-/+
40	blk, 4.4	d	+	-/+	-/+	-/+	-/+	+
41	wh	i	...	-/+	-/+	-/+	-/+	+
42	dk-brn, 9.0	-	i	+	+	+	-	-/+
43	wh	i	...	i/+	-/+	-/+	-/+	+
44	lt-yel, 4.45	d/+	i	+	+	-/+	+	+
45	wh, 4.35	r	r	+	+	r	+	+
46	yel, 5.75	i	...	+	+	-/+	-/+	-/+
47	brn-blk, 7.14	-	-	+	+	+	-	+
48	wh, 4.0	i/+	...	+	+	+	i/+	+

No.	Formula and name	$M_r$	Phase transition temperature
49	AgPO <sub>3</sub> Silver(I) metaphosphate	186.84	mp 482 dec
50	Ag <sub>3</sub> PO <sub>4</sub> Silver(I) orthophosphate	418.57	mp 849
51	Ag <sub>4</sub> P <sub>2</sub> O <sub>7</sub> Silver(I) diphosphate	605.41	mp 585
52	AgReO <sub>4</sub> Silver(I) perrhenate	358.07	mp 455
53	Ag <sub>2</sub> S Silver(I) sulfide	247.80	dec >350; mp 845 ( <i>p</i> )
54	Ag <sub>2</sub> SO <sub>3</sub> Silver(I) sulfite	295.80	100 → Ag <sub>2</sub> S, Ag <sub>2</sub> SO <sub>4</sub>
55	Ag <sub>2</sub> SO <sub>4</sub> Silver(I) sulfate	311.80	mp 660, dec >1000
56	Ag <sub>2</sub> (SO <sub>3</sub> S) Silver(I) thiosulfate	327.87	dec >250
57	[Ag(SO <sub>3</sub> S) <sub>2</sub> ] <sub>2</sub> Na <sub>3</sub> Sodium bis(thiosulfato)argentate(II)	401.10	dec <i>t</i>
58	(AgSb) <sub>2</sub> S <sub>2</sub> Silver-antimony disulfide	293.75	mp 509, dec <i>t</i>
59	Ag <sub>2</sub> Se Silver(I) selenide	294.70	mp 897, dec <i>t</i>
60	Ag <sub>2</sub> SeO <sub>4</sub> Silver(I) selenate	358.69	dec <i>t</i>
61	Ag <sub>2</sub> Te Silver(I) telluride	343.34	mp 960
62	Ag <sub>2</sub> TeO <sub>3</sub> Silver(I) tellurite	391.33	mp 450
63	<b>Al Aluminum</b>	26.982	mp 660.37; bp 2500
64	AlAs Aluminum monoarsenide	101.90	mp 1740
65	AlAsO <sub>4</sub> (·2H <sub>2</sub> O) Aluminum arsenate	165.90	dec <i>t</i>
66	AlAsO <sub>4</sub> ·8H <sub>2</sub> O	310.02	-H <sub>2</sub> O 335
67	AlB <sub>2</sub> Aluminum diboride	48.60	dec 1400
68	AlB <sub>12</sub> Aluminum dodecaboride	156.71	mp ca. 2200
69	AlBr <sub>3</sub> Aluminum bromide	266.69	mp 97.5; bp 265
70	AlBr <sub>3</sub> ·6H <sub>2</sub> O	374.78	mp 93, dec >100
71	Al(BrO <sub>3</sub> ) <sub>3</sub> (·9H <sub>2</sub> O) Aluminum bromate	410.69	mp hydr 62.3; dec 100
72	Al <sub>4</sub> C <sub>3</sub> Tetraluminum tricarbide	143.96	dec ca. 2200
73	Al(CH <sub>3</sub> COO) <sub>3</sub> Aluminum acetate	204.11	dec >370
74	Al(CN) <sub>3</sub> Aluminum cyanide	105.04	dec 100
75	Al <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> (·4H <sub>2</sub> O) Aluminum oxalate	318.02	hydr 290 → Al <sub>2</sub> O <sub>3</sub>
76	[Al(C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> ] <sub>3</sub> K <sub>3</sub> (·3H <sub>2</sub> O) Potassium trioxalatoaluminate(III)	408.33	-H <sub>2</sub> O 120
77	AlCl <sub>3</sub> Aluminum chloride	133.34	subl 183, mp 192.6
78	AlCl <sub>3</sub> ·6H <sub>2</sub> O	241.43	100 → AlCl(OH) <sub>2</sub>
79	[AlCl <sub>4</sub> ] <sub>3</sub> In Indium(III) tetrachloroaluminate(III)	283.61	mp 268
80	[AlCl <sub>4</sub> ] <sub>3</sub> NH <sub>4</sub> Ammonium tetrachloroaluminate(III)	186.83	mp 303
81	[AlCl <sub>4</sub> ] <sub>3</sub> Na Sodium tetrachloroaluminate(III)	191.78	mp 156
82	Al(Cl)O Aluminum chloride-oxide	78.43	>500 → AlCl <sub>3</sub> , Al <sub>2</sub> O <sub>3</sub>
83	Al(ClO <sub>3</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Aluminum chlorate	277.33	dec hydr <i>t</i>
84	Al(ClO <sub>4</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Aluminum perchlorate	325.33	mp hydr 121, -H <sub>2</sub> O 178
85	AlCl(OH) <sub>2</sub> (·4H <sub>2</sub> O) Aluminum chloride-dihydroxide	96.45	>350 → Al(Cl)O
86	[AlD <sub>4</sub> ] <sub>3</sub> Li Lithium tetra-deuteridoaluminate(III)	41.98	mp 175 dec
87	AlF <sub>3</sub> (·H <sub>2</sub> O) Aluminum fluoride	83.98	subl 1279
88	[AlF <sub>6</sub> ] <sub>3</sub> K <sub>3</sub> Potassium hexafluoroaluminate(III)	258.26	subl ca. 1300
89	[AlF <sub>6</sub> ] <sub>3</sub> Li <sub>3</sub> Lithium hexafluoroaluminate(III)	161.79	mp ca. 900
90	[AlF <sub>6</sub> ] <sub>3</sub> (NH <sub>4</sub> ) <sub>3</sub> Ammonium hexafluoroaluminate(III)	195.09	dec 305
91	[AlF <sub>6</sub> ] <sub>3</sub> Na <sub>3</sub> Sodium hexafluoroaluminate(III)	209.94	mp ca. 1009
92	AlH <sub>3</sub> Aluminum hydride	30.01	dec >105
93	Al(H)Br <sub>2</sub> Aluminum hydride-dibromide	187.80	dec >55
94	Al(H) <sub>2</sub> Br Aluminum dihydride-bromide	108.90	dec >35

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
49	wh, 6.37	i	i	+	+	+	+	+
50	yel, 6.38	i	i	+	-/+	i/r	-	+
51	wh, 5.31	i	i	i/+	i/+	i/+	-	+
52	wh, 6.96	d	i	+	+	-/+	+	+
53	blk, 7.23	i	i	+	+	+	i	i
54	wh	i/+	...	+	+	+	i/+	+
55	wh, 5.45	d	i	+	d	d	+	+
56	wh	i/+	...	+	+	+	-/+	-
57	wh	r	i	-/+	-/+	-/+	-	-
58	grey-blk, 5.2	i	...	-/+	-/+	+	-/+	-/+
59	blk, 8.19	i	i	-/+	-/+	-/+	i	-/+
60	wh, 5.72	d	i	+	-	-	-/+	+
61	grey-bl, 8.35	i	i	-/+	-/+	-/+	i	-/+
62	lt-yel	i/+	i	-/+	-/+	+	-/+	+
63	wh, 2.70	psv	-	+	+	+/psv	+	+
64	orange, 3.81	+	+	+	+	+	+	+
65	wh, 3.25	i	i	+	+	+	-/+	-
66	wh, 3.01	i	i	+	+	+	-/+	-
67	dk-red, 3.19	-	i	-/+	-	-/+	-/+	-
68	blk, 2.55	-	i	-	-	-/+	-	-
69	wh, 3.21	r/+	r	-	-/+	-	+	+
70	wh, 2.54	r/+	r	-	-/+	-	+	+
71	wh hydr	r	d	-/+	-	-	+	+
72	yel, 2.36	+	...	+	+	+	+	+
73	wh	r/+	r	r	r/+	r/+	+	+
74	wh	+	+	+	+	+	+	+
75	wh hydr	r	...	-	-/+	-/+	+	+
76	wh hydr	r	...	-	-/+	-/+	-/+	-/+
77	wh, 2.47	r/+	r	r/d	-/+	-	+	+
78	wh, 2.40	r	r	r	-	-	+	+
79	lt-yel	+	+	+	+	+	+	+
80	wh	+	...	+	+	+	+	+
81	wh	+	...	+	+	+	+	+
82	wh	+	+	+	+	+	+	+
83	wh hydr	r	...	+	r/+	r/+	+	+
84	wh hydr, 2.02	r	d	-	-	-	+	+
85	wh hydr	r	d	+	+	+	+	+
86	wh	+	+	+	+	+	+	+
87	wh, 2.88(2.17)	d/r	i	d/r	d/+	d/r	+	+
88	wh	i	i	-/+	-/+	-/+	+	-/+
89	wh	i	i	-/+	-/+	-/+	+	-/+
90	wh, 1.78	r	i	-/+	-/+	-/+	+	-/+
91	wh, 2.98	i	i	-/+	-/+	-/+	+	-/+
92	wh	+	+	+	+	+	+	+
93	cl lq	+	+	+	+	+	+	+
94	cl lq	+	+	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
95	Al(H)Cl <sub>2</sub> Aluminum hydride-dichloride	98.90	dec >60
96	Al(H) <sub>2</sub> Cl Aluminum dihydride-chloride	64.45	dec >40
97	Al(H)L <sub>2</sub> Aluminum hydride-diiodide	281.80	mp 80
98	Al(H) <sub>2</sub> I Aluminum dihydride-iodide	155.90	mp 35
99	[AlH <sub>4</sub> ] <sub>1</sub> Li Lithium tetrahydridoaluminate(III)	37.96	dec 125
100	[AlH <sub>4</sub> ] <sub>1</sub> Na Sodium tetrahydridoaluminate(III)	54.00	mp 183
101	AlI <sub>3</sub> Aluminum iodide	407.69	mp 188.3; bp 382.5
102	AlI <sub>3</sub> ·6H <sub>2</sub> O	515.78	dec 185
103	Al(IO <sub>3</sub> ) <sub>2</sub> NO <sub>3</sub> (·6H <sub>2</sub> O) Aluminum diiodate-nitrate	438.79	dec hydr >100
104	AlN Aluminum mononitride	40.99	mp 2427
105	Al(N <sub>3</sub> ) <sub>3</sub> Aluminum azide	153.05	dec >200
106	AlNH <sub>4</sub> (SO <sub>4</sub> ) <sub>2</sub> Aluminum-ammonium sulfate	237.15	dec 500
107	AlNH <sub>4</sub> (SO <sub>4</sub> ) <sub>2</sub> ·12H <sub>2</sub> O	453.33	mp hydr 95, -H <sub>2</sub> O >200
108	Al(NO <sub>3</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Aluminum nitrate	212.99	>150 → Al <sub>2</sub> O <sub>3</sub>
109	Al(NO <sub>3</sub> ) <sub>3</sub> ·9H <sub>2</sub> O	375.13	mp 73.5; dec 134
110	Al <sub>2</sub> O <sub>3</sub> (·0.25H <sub>2</sub> O) Aluminum oxide	101.96	mp 2053, bp >3000
111	Al <sub>2,67</sub> O <sub>4</sub> 2.67-Aluminum tetraoxide	136.04	1000 → Al <sub>2</sub> O <sub>3</sub>
112	Al(OH) <sub>3</sub> Aluminum hydroxide	78.00	200 → γ-AlO(OH)
113	α-AlO(OH) Aluminum metahydroxide	59.99	575 → Al <sub>2</sub> O <sub>3</sub>
114	γ-AlO(OH)	59.99	300 → Al <sub>2,67</sub> O <sub>4</sub>
115	AlP Aluminum monophosphide	57.96	mp 1700, dec 2000
116	AlPO <sub>4</sub> Aluminum orthophosphate	121.95	mp ca. 1650
117	AlPO <sub>4</sub> ·2H <sub>2</sub> O	157.98	dec >1500
118	Al(PO <sub>3</sub> ) <sub>3</sub> Aluminum metaphosphate	263.90	mp 1240
119	Al <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> (OH) <sub>3</sub> (·5H <sub>2</sub> O) Trialuminum diorthophosphate-trihydroxide	321.91	dec >1000
120	Al <sub>2</sub> S <sub>3</sub> Aluminum sulfide	150.16	subl <i>t</i> , mp 1120 ( <i>p</i> )
121	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> Aluminum sulfate	342.15	mp 770 dec
122	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> ·13.5H <sub>2</sub> O	585.35	dec >290
123	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> ·16H <sub>2</sub> O	630.39	mp 86 dec
124	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> ·18H <sub>2</sub> O	666.42	-H <sub>2</sub> O >400
125	Al(SO <sub>4</sub> )OH Aluminum sulfate-hydroxide	140.05	dec <i>t</i>
126	Al <sub>2</sub> SO <sub>4</sub> (OH) <sub>4</sub> (·7H <sub>2</sub> O) Dialuminum sulfate-tetrahydroxide	218.05	dec <i>t</i>
127	Al <sub>2</sub> Se <sub>3</sub> Aluminum selenide	290.84	dec <i>t</i>
128	α-Al <sub>2</sub> (SiO <sub>4</sub> )O Dialuminum orthosilicate-oxide	162.05	dec <i>t</i>
129	β-Al <sub>2</sub> (SiO <sub>4</sub> )O	162.05	dec <i>t</i>
130	γ-Al <sub>2</sub> (SiO <sub>4</sub> )O	162.05	mp 1545 dec
131	Al <sub>2</sub> Si <sub>2</sub> O <sub>7</sub> (·2H <sub>2</sub> O) Aluminum disilicate	222.13	-H <sub>2</sub> O ca. 400
132	Al <sub>2</sub> Si <sub>2</sub> O <sub>7</sub> ·4H <sub>2</sub> O	330.22	330 → Al <sub>2</sub> Si <sub>2</sub> O <sub>7</sub> ·2H <sub>2</sub> O
133	Al <sub>2</sub> Te <sub>3</sub> Aluminum telluride	436.76	dec <i>t</i>
134	<b>Am Americium</b>	243.061	mp 1292, bp 2880
135	Am <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> (·10H <sub>2</sub> O) Americium(III) oxalate	750.18	hydr >300 → Am <sub>2</sub> O <sub>3</sub>
136	AmCl <sub>3</sub> Americium(III) chloride	349.42	mp 850, bp 1750
137	AmF <sub>3</sub> Americium(III) fluoride	300.06	mp 1393, bp 2070
138	Am(NO <sub>3</sub> ) <sub>3</sub> Americium(III) nitrate	429.07	<i>t</i> → Am <sub>2</sub> O <sub>3</sub>
139	AmO <sub>2</sub> Americium(IV) oxide	275.06	dec >1000

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
95	cl lq	+	+	+	+	+	+	+
96	cl lq	+	+	+	+	+	+	+
97	wh	+	+	+	+	+	+	+
98	wh	+	+	+	+	+	+	+
99	wh, 0.72	+	-	+	+	+	+	+
100	wh	+	+	+	+	+	+	+
101	wh, 3.98	r/+	r	r	-/+	+	+	+
102	lt-yel, 2.63	r/+	r	-	-/+	+	+	+
103	wh hydr	d	...	+	-	-	+	+
104	wh, 3.12	-/+	i	-/+	-/+	-/+	-/+	-/+
105	wh	+	...	+	+	+	+	+
106	wh, 2.04	r	i	-	r	-	+	+
107	wh, 1.64	r	i	-	r	-	+	+
108	wh, 1.89	r	r	r	r	r	+	+
109	wh	r	r	r	r	r	+	+
110	wh, 3.97	-	i	-/+	-/+	-/+	-/+	-
111	wh	+	...	+	+	+	-/+	-
112	wh, 2.42	i	i	+	+	+	+	-/+
113	wh, 3.35	-	-	-/+	-/+	-/+	-/+	-
114	wh, 3.01	-	-	-/+	-/+	-/+	-/+	-
115	lt-grey, 2.41	-/+	...	+	+	+	+	-/+
116	wh, 2.56	i	i	-	-/+	-	-/+	-
117	wh, 2.54	i	i	i/+	i/+	i/+	+	-
118	wh, 2.78	i	i	-	-/+	-	-/+	-
119	wh, 2.3	i	i	+	+	+	+	-/+
120	wh, 2.02	+	...	+	+	+	+	+
121	wh, 2.71	r	d	r	r/+	r	+	+
122	wh	r	d	r	r	r	+	+
123	wh, 1.69	r	d	r	r	r	+	+
124	wh, 1.65	r	d	r	r	r	+	+
125	wh	r	...	+	+	+	+	+
126	wh	r	...	+	+	+	+	+
127	yel	+	...	+	+	+	+	+
128	wh, 3.61	-	...	-/+	-/+	-/+	-/+	-
129	wh, 3.25	-	...	-/+	-/+	-/+	-/+	-
130	wh, 3.18	-	...	-/+	-/+	-/+	-/+	-
131	wh, 2.61	i	...	-/+	-/+	-/+	-/+	-
132	wh, 2.1	i	...	-/+	-/+	-/+	-/+	-
133	dk-brn	+	...	+	+	+	+	+
134	wh, 11.7	-/+	...	+	+/psv	+/psv	-/+	-
135	pink hydr	i	...	-/+	i/+	-/+	i/+	i
136	pink	r	...	-	-/+	-	+	+
137	pink	d/t	d	-/+	-/+	-/+	+	+
138	pink	r	...	-	-	r	+	+
139	dk-brn	-	...	+	+	+	-	-

## 12 CONSTANTS OF INORGANIC SUBSTANCES

No.	Formula and name	$M_r$	Phase transition temperature
140	$\text{Am}_2\text{O}_3$ Americium(III) oxide	534.12	mp 2200
141	$\text{Am}(\text{OH})_3$ Americium(III) hydroxide	294.08	$t \rightarrow \text{Am}_2\text{O}_3$
142	$\text{Am}(\text{OH})_4$ Americium(IV) hydroxide	311.09	$t \rightarrow \text{AmO}_2$
143	<b>Ar Argon</b>	39.948	mp -189.4; bp -185.8
144	$\alpha$ -As Arsenic, grey	74.922	subl 615, mp 817 ( <i>p</i> )
145	$\beta$ -As Arsenic, black	74.922	270 $\rightarrow \alpha$ -As
146	$\text{As}_4$ Arsenic, yellow	299.69	358 $\rightarrow \alpha$ -As
147	$\text{AsBr}_3$ Arsenic tribromide	314.63	mp 31.2; bp 221
148	$\text{AsCl}_3$ Arsenic trichloride	181.28	mp -16.2; bp 131.4
149	$\text{AsF}_3$ Arsenic trifluoride	131.92	mp -5.94; bp 57.8
150	$\text{AsF}_5$ Arsenic pentafluoride	169.91	mp -79.8; bp -52.8
151	$[\text{AsF}_6]\text{H} \cdot (\text{H}_2\text{O})$ Hydrogen hexafluoroarsenate(V)	189.92	dec hydr 193
152	$[\text{AsF}_6]\text{Li}$ Lithium hexafluoroarsenate(V)	195.85	dec 350
153	$\text{AsH}_3$ Arsine	77.95	mp -116.92; bp -62.47
154	$\text{AsI}_3$ Arsenic triiodide	455.63	mp 141, bp 371
155	$\text{AsN}$ Arsenic mononitride	88.93	dec ca. 300
156	$\text{As}_2\text{O}_3$ (amor) Arsenic trioxide	197.84	soft <i>t</i> ; subl 195
157	$\alpha$ - $\text{As}_2\text{O}_3$	197.84	mp 314, bp 461
158	$\beta$ - $\text{As}_2\text{O}_3$	197.84	mp 278, bp 461
159	$\text{As}_2\text{O}_5$ Diarsenic pentaoxide	229.84	dec >300
160	$\text{As}(\text{O})\text{F}_3$ Arsenic oxide-trifluoride	147.92	mp -68, bp -26
161	$\text{AsP}$ Arsenic monophosphide	105.90	dec 750
162	$\text{As}_2\text{S}_3$ Diarsenic trisulfide	246.04	mp 310, bp 723
163	$\text{As}_2\text{S}_5$ Diarsenic pentasulfide	310.17	subl ca. 190, dec 500
164	$\alpha$ - $\text{As}_4\text{S}_4$ Tetraarsenic tetrasulfide	427.95	267 $\rightarrow \beta$ - $\text{As}_4\text{S}_4$
165	$\beta$ - $\text{As}_4\text{S}_4$	427.95	mp 321, bp 534
166	$\text{As}_2\text{Se}_3$ Diarsenic triselenide	386.72	mp 360
167	<b>At<sub>2</sub> Diastatine</b>	419.974	mp 244, bp 309
168	<b>Au Gold</b>	196.967	mp 1064.43; bp 2947
169	$(\text{AuAg})\text{Te}_4$ Gold-silver tetratelluride	815.24	dec >800
170	$(\text{AuAg}_3)\text{Te}_2$ Gold-trisilver ditelluride	775.77	dec >500
171	$\text{AuBr}$ Gold(I) bromide	276.87	dec ca. 200
172	$\text{AuBr}_3$ Gold(III) bromide	436.68	>150 $\rightarrow \text{AuBr}$
173	$[\text{AuBr}_4]\text{K} \cdot (2\text{H}_2\text{O})$ Potassium tetrabromoaurate(III)	555.68	dec hydr 120
174	$\text{Au}_2\text{C}_2$ Gold(II) acetylide	417.96	dec >25
175	$\text{AuCN}$ Gold(I) cyanide	222.99	dec <i>t</i>
176	$\text{Au}(\text{CN})_3 \cdot (3\text{H}_2\text{O})$ Gold(III) cyanide	275.02	dec hydr 50
177	$[\text{Au}(\text{CN})_2]\text{K}$ Potassium dicyanoaurate(I)	288.10	dec >250
178	$[\text{Au}(\text{CN})_4]\text{K} \cdot (1.5\text{H}_2\text{O})$ Potassium tetracyanoaurate(III)	340.14	$-\text{H}_2\text{O}$ 200, dec 250
179	$\text{AuCl}$ Gold(I) chloride	232.42	289 $\rightarrow \text{Au}$
180	$\text{AuCl}_3 \cdot (2\text{H}_2\text{O})$ Gold(III) chloride	303.33	dec 150, mp 288 ( <i>p</i> )
181	$[\text{AuCl}_4]\text{Cs}$ Cesium tetrachloroaurate(III)	471.68	dec ca. 460
182	$[\text{AuCl}_4]\text{H} \cdot (4\text{H}_2\text{O})$ Hydrogen tetrachloroaurate(III)	339.79	dec hydr 120
183	$[\text{AuCl}_4]\text{K} \cdot (0.5\text{H}_2\text{O})$ Potassium tetrachloroaurate(III)	377.88	$-\text{H}_2\text{O}$ 100, dec ca. 350
184	$[\text{AuCl}_4]\text{NH}_4 \cdot (n\text{H}_2\text{O})$ Ammonium tetrachloroaurate(III)	356.82	$-\text{H}_2\text{O}$ <i>t</i> , mp 520

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
140	orange	-	...	+	+	+	-	-
141	pink	i	...	+	+	+	-	-
142	brn-blk	i	...	+	+	+	-	-
143	cl gas, 1.7837	d/i	d/i	-	-	-	-	-
144	grey, 5.73	-	...	-	-/+	-/+	-/+	-
145	blk, 4.9	-	...	-	-	-/+	-/+	-
146	yel, 2.03	-	...	-/+	-	-/+	-/+	-
147	wh, 3.54	+	r	+	+	+	+	+
148	cl lg, 2.16 <sup>20</sup>	+	r	+	+	+	+	+
149	cl lg, 2.73 <sup>15</sup>	+	r	+	+	+	+	+
150	cl gas, 7.71	+	+	+	+	+	+	+
151	wh	r	...	-	-/+	-/+	+	+
152	wh	r	r	-	-/+	-/+	+	-
153	cl gas, 3.5023	d	...	-/+	-/+	-/+	-	-
154	red, 4.39	-/+	r	+	-/+	+	+	+
155	orange-red	-	...	-	-	-/+	-/+	-
156	wh	+	d	-/+	-/+	+	+	-
157	wh, 4.15	+	d	-/+	-/+	+	+	-
158	wh, 3.74	+	d	-/+	-/+	+	+	-
159	wh, 4.32	+	r	+	+	+	+	+
160	cl gas	+	d/+	+	+	+	+	+
161	red	+	i	+	+	+	+	+
162	dk-yel, 3.43	-/+	r	-	-/+	+	-/+	-/+
163	yel	+	i	-/+	-/+	+	+	+
164	red-brn, 3.56	-	...	-	-/+	-/+	-/+	-
165	red-brn, 3.25	-	...	-	-/+	-/+	-/+	-
166	brn, 4.75	-/+	...	-/+	-/+	-/+	+	+
167	...	-	...	-/+	-/+	+	+	-
168	yel, 19.29	-	-	-	-	-	-	-
169	dk-grey, 8.1	-	...	-	-/+	-/+	-	-
170	dk-grey, 8.85	-	...	-	-/+	-/+	-	-
171	yel, 7.9	i/+	+	+	+	+	+	+
172	brn	+	r	+	+	+	+	+
173	red hydr, 4.08	r	r	-	-/+	-/+	+	+
174	yel	-/+	...	+	+	+	+	+
175	yel, 7.14	i	i	i/r	i/r	r	i/+	i/+
176	wh hydr	+	r	-/+	-	+	+	+
177	wh, 3.45	r	d	-	-/+	+	-	-
178	wh	r	d	+	+	+	-	-
179	lt-yel, 7.4	i/+	+	+	+	+	+	+
180	dk-red, 4.67	+	r	+	+	+	+	+
181	yel	d	r	r	-	-	+	-/+
182	lt-yel hydr, 3.9	r	r	r	-	-	+	+
183	yel, 3.75	r	r	r	-	-	+	-/+
184	yel hydr	r	r	r	-	-	+	+

## 14 CONSTANTS OF INORGANIC SUBSTANCES

No.	Formula and name	$M_r$	Phase transition temperature
185	[AuCl <sub>4</sub> ] <sub>2</sub> Na (·2H <sub>2</sub> O) Sodium tetrachloroaurate(III)	361.77	dec hydr 100
186	Au(Cl)O Gold chloride-oxide	248.42	290 → Au
187	AuF <sub>3</sub> Gold(III) fluoride	253.96	dec 500
188	AuF <sub>3</sub> Gold(V) fluoride	291.96	mp 75
189	AuI Gold(I) iodide	323.87	dec 120
190	AuI <sub>3</sub> Gold(III) iodide	577.68	>20 → AuI
191	AuNCS Gold(I) thiocyanate	255.06	dec 140
192	[Au(NO <sub>3</sub> ) <sub>4</sub> ] <sub>2</sub> H (·3H <sub>2</sub> O) Hydrogen tetranitrateaurate(III)	445.99	mp hydr 72.5 dec
193	Au <sub>2</sub> O <sub>3</sub> Gold(III) oxide	441.93	dec >160
194	Au <sub>2</sub> O <sub>3</sub> · <i>n</i> H <sub>2</sub> O	—	100 → AuO(OH)
195	[Au(OH) <sub>4</sub> ] <sub>2</sub> K (·H <sub>2</sub> O) Potassium tetrahydroaurate(III)	304.09	dec hydr >300
196	AuO(OH) Gold metahydroxide	229.97	ca. 150 → Au <sub>2</sub> O <sub>3</sub>
197	Au <sub>2</sub> S Gold(I) sulfide	426.00	240 → Au
198	Au <sub>2</sub> (S <sub>2</sub> ) Gold(I) disulfide(2-)	458.07	>140 → Au <sub>2</sub> S
199	Au <sub>2</sub> S <sub>3</sub> Gold(III) sulfide	490.13	200 → Au <sub>2</sub> S
200	[Au(SO <sub>3</sub> S <sub>2</sub> ) <sub>2</sub> ] <sub>2</sub> Na <sub>3</sub> (·2H <sub>2</sub> O) Sodium bis(thiosulfato)aurate(I)	490.20	-H <sub>2</sub> O 150, dec 300
201	Au <sub>2</sub> (SeO <sub>4</sub> ) <sub>3</sub> Gold(III) selenate	822.80	dec <i>t</i>
202	AuTe <sub>2</sub> Gold ditelluride	452.17	mp 464, dec >500
203	<b>B Boron</b>	10.811	mp 2075, bp 3700
204	(BAs) <sub>2</sub> O <sub>4</sub> Boron-arsenic tetraoxide	149.73	subl ca. 700
205	BBr <sub>3</sub> Boron tribromide	250.52	mp -45.84; bp 89.8
206	BBr <sub>2</sub> I Boron dibromide-iodide	297.52	bp 125
207	B <sub>4</sub> C Tetraboron carbide	55.26	mp 2350, bp >3500
208	B(CH <sub>3</sub> COO) <sub>3</sub> Boron triacetate	187.94	mp 149
209	B(CH <sub>3</sub> O) <sub>3</sub> Trimethoxyborane	103.91	mp -29, bp 68.7
210	B(C <sub>2</sub> H <sub>5</sub> O) <sub>3</sub> Triethoxyborane	145.99	bp 118.6
211	BCl <sub>3</sub> Boron trichloride	117.17	mp -107, bp 12.5
212	B <sub>4</sub> Cl <sub>4</sub> Tetraboron tetrachloride	185.06	mp 95, dec 200
213	[BD <sub>4</sub> ] <sub>2</sub> Na Sodium tetradeuteridoborate(III)	41.86	mp >300
214	BF <sub>3</sub> Boron trifluoride	67.81	mp -128.36; bp -100.3
215	[BF <sub>4</sub> ](ClF <sub>2</sub> ) Difluorochlorine(III) tetrafluoroborate(III)	160.25	mp 30
216	[BF <sub>4</sub> ] <sub>2</sub> Cs Cesium tetrafluoroborate(III)	219.71	mp 555
217	[BF <sub>4</sub> ] <sub>2</sub> K Potassium tetrafluoroborate(III)	125.90	mp 570, dec 930
218	[BF <sub>4</sub> ] <sub>2</sub> NH <sub>4</sub> Ammonium tetrafluoroborate(III)	104.84	subl 350, mp 487 ( <i>p</i> )
219	[BF <sub>4</sub> ] <sub>2</sub> Na Sodium tetrafluoroborate(III)	109.79	mp 384, dec >400
220	[BF <sub>4</sub> ](XeF <sub>2</sub> ) Pentafluoroxenon(VI) tetrafluoroborate(III)	313.08	mp 90
221	B <sub>2</sub> H <sub>6</sub> Diborane(6)	27.67	mp -165.5; bp -92.5
222	B <sub>4</sub> H <sub>10</sub> Tetraborane(10)	53.32	mp -120, bp 18 dec
223	B <sub>5</sub> H <sub>9</sub> Pentaborane(9)	63.13	mp -45.6; bp 60
224	B <sub>5</sub> H <sub>11</sub> Pentaborane(11)	65.14	mp -128.6; dec 25
225	B <sub>6</sub> H <sub>10</sub> Hexaborane(10)	74.95	mp -65.1; dec 25
226	B <sub>6</sub> H <sub>12</sub> Hexaborane(12)	76.96	mp -82, dec 25
227	B <sub>9</sub> H <sub>15</sub> Nonaborane(15)	112.42	mp 3

*(Continued)*

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
185	yel hydr	r	r	r	-	-	+	+
186	red	-/+	-	-/+	-/+	-/+	+	+
187	orange	+	+	+	+	+	+	+
188	red-brn	+	+	+	+	+	+	+
189	yel-grn, 8.25	i/+	+	+	+	+	+	+
190	dk-grn	i/+	...	-/+	-/+	+	+	-/+
191	dk-yel	+	...	+	+	+	+	+
192	yel hydr	+	+	+	+	+	+	+
193	brn-blk, 10.61	-	-	+	-/+	-/+	-/+	-
194	lt-brn	i	-	+	-/+	-/+	i/+	i
195	lt-yel hydr	r/+	r	+	+	+	r	r
196	lt-brn	i	-	+	-/+	-/+	+	i
197	brn-blk, 9.0	i	...	-	-/+	-/+	-	-
198	blk-brn	i	...	-	-/+	-/+	-	-
199	blk, 8.75	+	i	-/+	-/+	+	+	+
200	wh hydr, 3.09	r	i	-/+	-/+	-/+	-	-
201	yel	+	...	+	+	+	+	+
202	yel, 8.6-9.35	-	-	-	-/+	-/+	-/+	-
203	grey-blk, 2.340	-	-	-	-	-/+	-	-
204	wh, 3.64	-/+	...	-	-/+	-/+	-/+	-
205	cl lq, 2.65 <sup>0</sup>	+	+	+	+	+	+	+
206	cl lq	+	+	+	+	+	+	+
207	blk, 2.55	-	-	-	-	-	-/+	-
208	wh	-/+	d	+	+	+	+	+
209	cl lq	+	∞	+	+	+	+	+
210	cl lq	+	∞	+	+	+	+	+
211	cl lq, 1.43 <sup>0</sup>	+	+	+	+	+	+	+
212	yel	+	...	+	+	+	+	+
213	wh	r/+	r	+	+	+	-	-
214	cl gas, 3.209	+	+	+	+	+	+	+
215	wh	+	...	+	+	+	+	+
216	wh, 3.20	d/i	i	-	-/+	-	-/+	-
217	wh, 2.51	d/+	i	-	-/+	-	-/+	-
218	wh, 1.871	r/+	...	-	-/+	-	+	-
219	wh, 2.47	r/+	d	-	-/+	-	+	-
220	wh	+	...	+	+	+	+	+
221	cl gas, 1.234	+	+	+	+	+	+	+
222	cl gas, 2.379	+	+	+	+	+	+	+
223	cl lq, 0.61 <sup>0</sup>	+	+	+	+	+	+	+
224	cl lq	+	+	+	+	+	+	+
225	cl lq, 0.69 <sup>0</sup>	+	+	+	+	+	+	+
226	cl lq	+	+	+	+	+	+	+
227	cl lq	+	+	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
228	B <sub>10</sub> H <sub>14</sub> Decaborane(14)	122.22	mp 99.7; bp 213 dec
229	B <sub>16</sub> H <sub>20</sub> 16-Borane(20)	193.14	mp 99
230	B <sub>18</sub> H <sub>22</sub> 18-Borane(22)	216.77	mp 180
231	B <sub>20</sub> H <sub>16</sub> 20-Borane(16)	232.35	mp 197
232	[BH <sub>4</sub> ] <sub>3</sub> ,Al Aluminium tetrahydridoborate(III)	71.51	mp -64.5; bp 44.5
233	[BH <sub>4</sub> ] <sub>2</sub> ,Be Beryllium tetrahydridoborate(III)	38.70	subl 91, dec >120
234	[BH <sub>4</sub> ] <sub>3</sub> ,Cs Cesium tetrahydridoborate(III)	147.75	dec >570
235	[B <sub>10</sub> H <sub>10</sub> ] <sub>2</sub> ,Cs <sub>2</sub> Dicesium decaboranate(10)	384.00	dec 600
236	[B <sub>12</sub> H <sub>12</sub> ] <sub>2</sub> ,Cs <sub>2</sub> Dicesium dodecaboranate(12)	407.64	dec >800
237	[BH <sub>4</sub> ] <sub>4</sub> ,Hf Hafnium tetrahydridoborate(III)	237.86	mp 29, bp 118
238	[BH <sub>4</sub> ] <sub>4</sub> ,K Potassium tetrahydridoborate(III)	53.94	dec 500
239	[BH <sub>4</sub> ] <sub>4</sub> ,Li Lithium tetrahydridoborate(III)	21.78	dec 278
240	B <sub>3</sub> H <sub>6</sub> N <sub>3</sub> Borazine	80.50	mp -56, bp 55
241	[BH <sub>4</sub> ] <sub>3</sub> ,Na Sodium tetrahydridoborate(III)	37.83	mp 400 dec
242	[BH <sub>4</sub> ] <sub>4</sub> ,Ti Titanium(IV) tetrahydridoborate(III)	107.25	dec 25
243	[BH <sub>4</sub> ] <sub>4</sub> ,U Uranium(IV) tetrahydridoborate(III)	297.40	dec 70
244	[BH <sub>4</sub> ] <sub>2</sub> ,Zn Zinc(II) tetrahydridoborate(III)	95.08	dec 85
245	[BH <sub>4</sub> ] <sub>4</sub> ,Zr Zirconium(IV) tetrahydridoborate(III)	150.60	mp 29, bp 128
246	BI <sub>3</sub> Boron triiodide	391.52	mp 49.7; bp 209.5
247	$\alpha$ -BN Boron mononitride	24.82	dec >1000, mp 2727 ( <i>p</i> )
248	$\beta$ -BN	24.82	mp >3200 ( <i>p</i> )
249	[B(NH <sub>3</sub> )F <sub>3</sub> ] Amminetrifluoroboron	84.84	dec 125, mp 162 ( <i>p</i> )
250	[BN <sub>2</sub> ] <sub>2</sub> ,Li <sub>3</sub> Lithium dinitridoborate(III)	59.65	mp 870
251	B <sub>2</sub> O <sub>3</sub> Diboron trioxide	69.62	mp 450, bp >2000
252	B <sub>2</sub> O <sub>3</sub> (amor)	69.62	soft >200
253	B(OH) <sub>3</sub> Boron trihydroxide	61.83	>70 $\rightarrow$ HBO <sub>2</sub> ; mp 170 ( <i>p</i> )
254	[B(OH)F <sub>3</sub> ] <sub>2</sub> ,H ( $\cdot$ 2H <sub>2</sub> O) Hydrogen hydroxotrifluoroborate(III)	85.82	mp hydr 6, dec hydr >20
255	[B(OH) <sub>4</sub> ] <sub>3</sub> ,Li ( $\cdot$ 6H <sub>2</sub> O) Lithium tetrahydroxoborate(III)	85.78	mp hydr 47
256	[B(OH) <sub>4</sub> ] <sub>3</sub> ,Na ( $\cdot$ 2H <sub>2</sub> O) Sodium tetrahydroxoborate(III)	101.83	mp hydr 57, dec 306
257	[B <sub>2</sub> (O <sub>2</sub> ) <sub>2</sub> (OH) <sub>4</sub> ] <sub>2</sub> ,Na <sub>2</sub> ( $\cdot$ 6H <sub>2</sub> O) Sodium diperoxotetrahydroxodiborate(III)	199.63	dec hydr >60
258	BP Boron monophosphide	41.79	mp >2000 dec
259	(BP) <sub>4</sub> O <sub>4</sub> Boron-phosphorus tetraoxide	105.78	mp 1600
260	B <sub>2</sub> S <sub>3</sub> Diboron trisulfide	117.82	mp >310
261	[B(SO <sub>3</sub> F) <sub>4</sub> ] <sub>2</sub> ,K Potassium tetrakis(fluorosulfonate)borate(III)	446.15	mp 65 dec
262	B <sub>3</sub> Si Triboron silicide	60.52	mp ca. 2500
263	[BW <sub>12</sub> O <sub>40</sub> ] <sub>2</sub> ,H <sub>2</sub> ( $\cdot$ 30H <sub>2</sub> O) Hydrogen 40-oxododecawolframoborate(III)	2862.01	mp hydr 48.5; dec 60
<b>264</b>	<b>Ba Barium</b>	137.327	mp 727, bp ca. 1860
265	Ba <sub>3</sub> As <sub>2</sub> Tribarium diarsenide	561.83	mp >1000
266	(BaAs <sub>2</sub> ) <sub>6</sub> O <sub>6</sub> Barium-diarsenic hexaoxide	383.17	dec 500
267	Ba <sub>2</sub> As <sub>2</sub> O <sub>7</sub> Barium heptaoxidarsenate(V)	536.49	dec 800
268	Ba <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub> Barium arsenate	689.82	mp 1605
269	BaB <sub>6</sub> Barium hexaboride	202.19	mp 2270
270	BaBr <sub>2</sub> Barium bromide	297.14	mp 857, bp 1980

*(Continued)*

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
228	wh, 0.94	+	+	+	+	+	+	+
229	wh	+	r	+	+	+	+	+
230	wh	+	r	+	+	+	+	+
231	wh	+	r	+	+	+	+	+
232	cl lq, 0.55 <sup>20</sup>	+	r	+	+	+	+	+
233	wh	+	r	+	+	+	+	+
234	wh, 2.40	d/+	d	+	+	+	-	-
235	wh	r	d	-	-	-	-	-
236	wh	r	d	-	-	-	-/+	-
237	wh	+	r	+	+	+	+	+
238	wh, 1.18	d/+	...	+	+	+	-	-
239	wh, 0.67	r/+	...	+	+	+	-	-
240	cl lq, 0.824 <sup>0</sup>	+	...	+	+	+	+	+
241	wh, 1.07	r/+	r	+	+	+	-	-
242	grn	+	...	+	+	+	+	+
243	grn	+	...	+	+	+	+	+
244	wh	+	i	+	+	+	+	+
245	wh	+	...	+	+	+	+	+
246	wh, 3.35	+	r	-	-/+	-/+	+	...
247	wh, 2.34	-	-	-	-	-	-/+	-
248	wh, 2.29	-	-	-	-	-	-	-
249	wh, 1.85	+	+	+	+	+	+	+
250	wh	+	...	+	+	+	+	+
251	wh, 2.46	-/+	...	-	-	-	+	-
252	wh, 1.84	+	+	+/-	+/-	+/-	+	+
253	wh, 1.44	r	r	-	-	-	+	+
254	cl lq hydr, 1.63 <sup>20</sup>	r	...	+	+	+	+	+
255	wh hydr	r/+	...	+	+	+	r	r
256	wh, 1.91(1.74)	r/+	...	+	+	+	r	r
257	wh hydr	d/+	...	+	+	+	-	-
258	lt-brn	-	-	-	-/+	-/+	-/+	-
259	wh, 2.52	-/+	i	-	-/+	-/+	-/+	-
260	wh, 1.55	+	+	+	+	+	+	+
261	wh	r	...	+	+	+	+	...
262	blk, 2.52	-	...	-	-/+	-	-/+	-
263	wh hydr, 3.0	r/+	r	-	-	-	+	+
264	wh, 3.60	+	+	+	+	+	+	+
265	brn, 4.1	+	...	+	+	+	+	+
266	wh	i/+	...	+	+	+	-	-
267	wh	i/+	...	i/+	i/+	i/+	i/+	i/+
268	wh, 5.10	i	...	i/+	i/+	i/+	i	i
269	dk-grey, 4.36	-	-	-	-	+	-	-
270	wh, 4.78	r	d	r	+	r	r	r

## 18. CONSTANTS OF INORGANIC SUBSTANCES

No.	Formula and name	$M_r$	Phase transition temperature
271	BaBr <sub>2</sub> ·2H <sub>2</sub> O	333.17	-H <sub>2</sub> O 120
272	Ba(BrO <sub>3</sub> ) <sub>2</sub> (·H <sub>2</sub> O) Barium bromate	393.13	-H <sub>2</sub> O 180, dec 270
273	BaC <sub>2</sub> Barium acetylide	161.35	mp >1780, dec 2000
274	Ba(CH <sub>3</sub> COO) <sub>2</sub> (·3H <sub>2</sub> O) Barium acetate	255.42	-H <sub>2</sub> O >144, mp 450 dec
275	BaCO <sub>3</sub> Barium carbonate	197.34	dec >1200; mp 1555 ( <i>p</i> )
276	BaC <sub>2</sub> O <sub>4</sub> (·H <sub>2</sub> O) Barium oxalate	225.35	dec hydr 400
277	BaCa(CO <sub>3</sub> ) <sub>2</sub> Barium-calcium dicarbonate	297.42	dec ca. 1000
278	BaCl <sub>2</sub> Barium chloride	208.23	mp 961, bp ca. 2050
279	BaCl <sub>2</sub> ·2H <sub>2</sub> O	244.26	-H <sub>2</sub> O 113
280	Ba <sub>2</sub> (Cl)N Dibarium chloride-nitride	324.11	mp 965
281	Ba(ClO) <sub>2</sub> (·2H <sub>2</sub> O) Barium hypochlorite	240.23	dec hydr ca. 185
282	Ba(ClO <sub>2</sub> ) <sub>2</sub> Barium chlorite	272.23	dec 235
283	Ba(ClO <sub>3</sub> ) <sub>3</sub> (·H <sub>2</sub> O) Barium chlorate	304.23	-H <sub>2</sub> O 120, mp 414 dec
284	Ba(ClO <sub>4</sub> ) <sub>2</sub> (·3H <sub>2</sub> O) Barium perchlorate	336.23	-H <sub>2</sub> O 260, mp 505
285	BaCrO <sub>4</sub> Barium chromate	253.32	mp 1380
286	BaCr <sub>2</sub> O <sub>7</sub> (·2H <sub>2</sub> O) Barium dichromate	353.31	-H <sub>2</sub> O 120
287	BaF <sub>2</sub> Barium fluoride	175.32	mp 1368, bp 2260
288	BaFeO <sub>4</sub> (·H <sub>2</sub> O) Barium ferrate	257.17	dec hydr 120
289	BaH <sub>2</sub> Barium hydride	139.34	dec >600
290	BaHAsO <sub>4</sub> (·H <sub>2</sub> O) Barium hydroarsenate	277.25	-H <sub>2</sub> O 150
291	BaHPO <sub>4</sub> Barium hydroorthophosphate	233.31	dec 400
292	Ba(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> Barium dihydroorthophosphate	331.30	dec >340
293	Ba(HS) <sub>2</sub> (·4H <sub>2</sub> O) Barium hydrosulfide	203.48	-H <sub>2</sub> O 50, dec <i>t</i>
294	BaI <sub>2</sub> Barium iodide	391.14	mp 711, bp 1900
295	BaI <sub>2</sub> ·7.5H <sub>2</sub> O	526.25	dec >540
296	Ba(IO <sub>3</sub> ) <sub>2</sub> (·H <sub>2</sub> O) Barium iodate	487.13	-H <sub>2</sub> O 130, dec <i>t</i>
297	BaMnO <sub>4</sub> Barium manganate	256.26	dec >700
298	Ba(MnO <sub>4</sub> ) <sub>2</sub> Barium permanganate	375.20	220 → BaMnO <sub>4</sub>
299	BaMoO <sub>4</sub> Barium molybdate	297.26	mp 1460, bp 1730
300	Ba(N <sub>3</sub> ) <sub>2</sub> (·6H <sub>2</sub> O) Barium azide	221.37	dec hydr >120
301	Ba <sub>3</sub> N <sub>2</sub> Tribarium dinitride	440.00	dec >500
302	Ba(NCS) <sub>2</sub> (·3H <sub>2</sub> O) Barium thiocyanate	253.50	-H <sub>2</sub> O 130, dec <i>t</i>
303	Ba(NH <sub>2</sub> ) <sub>2</sub> Barium amide	169.37	mp 290, dec <i>t</i>
304	[Ba(NH <sub>3</sub> ) <sub>6</sub> ]I <sub>2</sub> Hexaamminebarium(II) iodide	493.32	dec >20
305	BaN <sub>2</sub> O <sub>2</sub> (·4H <sub>2</sub> O) Barium hyponitrite	197.34	-H <sub>2</sub> O 100; 500 → BaO
306	Ba(NO <sub>2</sub> ) <sub>2</sub> (·H <sub>2</sub> O) Barium nitrite	229.34	-H <sub>2</sub> O 115, dec >200
307	Ba(NO <sub>3</sub> ) <sub>2</sub> Barium nitrate	261.34	mp 594, dec 800
308	Ba(NO <sub>3</sub> ) <sub>2</sub> ·H <sub>2</sub> O	279.35	dec hydr ca. 100
309	BaO Barium oxide	153.33	subl 1377, mp ca. 2020
310	BaO <sub>2</sub> (·8H <sub>2</sub> O) Barium peroxide	169.33	-H <sub>2</sub> O 100, dec >790
311	Ba(O <sub>2</sub> ) <sub>2</sub> Barium superoxide	201.32	dec 50
312	Ba(OH) <sub>2</sub> Barium hydroxide	171.34	mp 408, dec 780
313	Ba(OH) <sub>2</sub> ·8H <sub>2</sub> O	315.46	mp 78, -H <sub>2</sub> O 125
314	Ba(PH <sub>2</sub> O) <sub>2</sub> (·H <sub>2</sub> O) Barium phosphinate	267.30	dec hydr ca. 100
315	Ba <sub>2</sub> P <sub>2</sub> O <sub>7</sub> Barium diphosphate	448.60	mp 1430, <i>t</i> → Ba <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>
316	Ba <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> Barium orthophosphate	601.92	mp 1605
317	Ba(ReO <sub>4</sub> ) <sub>2</sub> Barium perhenate	637.73	mp 799

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
271	wh, 3.58	r	r	r	+	r	r	r
272	wh, 3.99	d	i	-	+	-	-	-
273	grey-blk, 3.75	+	+	+	+	+	+	+
274	wh, 2.47(2.02)	r	d	r	+	r	r	-
275	wh, 4.43	i	i	+	+	+	-	-
276	wh hydr, 2.66	i	i	i/+	+	i/+	i	-
277	wh, 3.65	i	i	+	+	+	-	-
278	wh, 3.86	r	i	i	+	r	r	r
279	wh, 3.10	r	i	r	+	r	r	r
280	yel-grey	+	...	+	+	+	+	+
281	wh hydr	+	+	+	+	+	+	+
282	wh	+	+	+	+	+	+	+
283	wh hydr, 3.18	r	d	-/+	+	r	-	-
284	wh, 3.2(2.74)	r	r	r	+	-	-	-
285	yel, 4.50	i	i	+	+	+	i	i
286	yel-red hydr	r	...	-	+	-	+	+
287	wh, 4.89	d	i	-	+	d	-	-
288	red hydr	i	+	+	+	-	-	+
289	wh, 4.15	+	+	+	+	+	+	+
290	wh, 3.93(1.93)	d/+	...	+	+	+	-/+	-/+
291	wh, 4.17	d	...	+	+	+	-/+	-/+
292	wh, 2.9	d/+	...	+	+	+	-/+	-/+
293	wh	r/+	i	+	+	+	+	+
294	wh, 5.15	r	r	-	+	-/+	r	r
295	wh, 2.6	r	r	-	+	-/+	r	r
296	wh, 5.0(4.66)	i	i	+	-/+	-	-	-
297	blk-grn, 4.85	i/+	...	+	+	+	-	-
298	blk-viol, 3.77	d	+	r/+	+	r/+	r/+	+
299	wh, 4.65	i	...	-	-/+	-/+	-	-
300	wh hydr, 2.94	r	d	+	+	+	r	r
301	grey, 4.78	+	...	+	+	+	+	+
302	wh hydr, 2.27	r	r	r	+	-/+	r	-
303	wh	+	...	+	+	+	+	+
304	wh	r/+	...	+	+	+	-	r
305	wh, 3.89(2.74)	r/+	...	-/+	-/+	-/+	-	-
306	wh, 3.23(3.17)	r	d	-/+	+	-/+	-	-
307	wh, 3.24	r	i	r	+	i	r	r
308	wh	r	i	-	+	r	-	-
309	wh, 5.72	+	+	+	+	+	+	+
310	wh, 4.96(2.29)	i/+	i	+	+	+	-	-
311	yel-grn	+	i	+	+	+	+	+
312	wh, 4.5	r	i	+	+	+	r	r
313	wh, 2.18	r	d	+	+	+	r	r
314	wh hydr, 2.90	r	i	-	+	-/+	-	-
315	wh, 3.9	d/+	...	+	+	+	-	-
316	wh, 4.1	i	...	i/r	i/+	i/r	i	i
317	wh, 5.91	r	r	-	+	-	-	-

No.	Formula and name	$M_r$	Phase transition temperature
318	BaS Barium sulfide	169.39	mp ca. 2000 dec
319	Ba(S <sub>2</sub> ) Barium disulfide(2-)	201.46	mp 925 dec
320	Ba(S <sub>3</sub> ) Barium trisulfide(2-)	233.53	mp 554 dec
321	Ba(S <sub>4</sub> ) (·2H <sub>2</sub> O) Barium tetrasulfide(2-)	265.59	dec 300
322	BaSO <sub>3</sub> Barium sulfite	217.39	dec <i>t</i>
323	BaSO <sub>4</sub> Barium sulfate	233.39	mp 1580 dec
324	BaS <sub>2</sub> O <sub>6</sub> (·2H <sub>2</sub> O) Barium dithionate	297.45	-H <sub>2</sub> O 120, dec >140
325	BaS <sub>2</sub> O <sub>6</sub> (O <sub>2</sub> ) (·4H <sub>2</sub> O) Barium peroxodisulfate	329.45	dec hydr 100
326	Ba(SO <sub>3</sub> S) (·H <sub>2</sub> O) Barium thiosulfate	249.46	dec hydr 100
327	BaSe Barium selenide	216.29	mp 1780
328	BaSeO <sub>4</sub> Barium selenate	280.28	dec ca. 1500
329	BaSiO <sub>3</sub> (·6H <sub>2</sub> O) Barium metasilicate	213.41	-H <sub>2</sub> O <i>t</i> , mp >1600
330	BaTe Barium telluride	264.93	mp 1510
331	BaTeO <sub>4</sub> (·4H <sub>2</sub> O) Barium metatellurate	328.92	-H <sub>2</sub> O 400
332	(BaTi)O <sub>3</sub> Barium-titanium trioxide	233.20	mp 1616
333	Ba <sub>2</sub> V <sub>2</sub> O <sub>7</sub> Barium heptaaxodivanadate(v)	488.53	mp 863
334	BaWO <sub>4</sub> Barium wolframate	385.17	mp 1475, bp 1730
335	Ba <sub>3</sub> XeO <sub>6</sub> Barium hexaaxoxenonate(v)	639.27	dec 250
336	(BaZr)O <sub>3</sub> Barium-zirconium trioxide	276.55	mp ca. 2690
337	<b>Be Beryllium</b>	9.012	mp 1287, bp 2507
338	(BeAl <sub>2</sub> )O <sub>4</sub> Beryllium-dialuminum tetraoxide	126.97	mp 1870
339	BeBr <sub>2</sub> (·4H <sub>2</sub> O) Beryllium bromide	168.82	mp 509, bp 540
340	Be <sub>2</sub> C Diberyllium carbide	30.04	mp 2150 dec
341	Be(CH <sub>3</sub> COO) <sub>2</sub> Beryllium acetate	127.10	mp 295 dec
342	[Be(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ] Bis(cyclopentadieny)beryllium	139.20	subl >45
343	Be <sub>4</sub> (CH <sub>3</sub> COO) <sub>6</sub> O Tetraberyllium hexaacetate-oxide	406.31	mp 285, bp 331
344	BeCO <sub>3</sub> (·4H <sub>2</sub> O) Beryllium carbonate	69.02	-H <sub>2</sub> O 100, dec 180
345	[Be(C <sub>2</sub> O <sub>4</sub> ) <sub>2</sub> ],Be (·3H <sub>2</sub> O) Beryllium dioxalatoberyllate(II)	194.06	-H <sub>2</sub> O 220; 350 → BeO
346	BeCl <sub>2</sub> Beryllium chloride	79.92	mp 415, bp 550
347	BeCl <sub>2</sub> ·4H <sub>2</sub> O	151.98	mp 96, dec 176
348	Be(ClO <sub>4</sub> ) <sub>2</sub> (·4H <sub>2</sub> O) Beryllium perchlorate	279.97	dec hydr 250
349	Be <sub>4</sub> (ClO <sub>4</sub> ) <sub>6</sub> O Tetraberyllium hexaperchlorate-oxide	648.74	mp 165
350	BeF <sub>2</sub> Beryllium fluoride	47.01	mp 803, bp 1175
351	[BeF <sub>4</sub> ],K <sub>2</sub> Potassium tetrafluoroberyllate(II)	163.20	mp 791
352	[BeF <sub>4</sub> ],(NH <sub>4</sub> ) <sub>2</sub> Ammonium tetrafluoroberyllate(II)	121.08	dec 230
353	[BeF <sub>4</sub> ],Na <sub>2</sub> Sodium tetrafluoroberyllate(II)	130.98	mp 578
354	BeH <sub>2</sub> Beryllium hydride	11.03	dec >100
355	BeI <sub>2</sub> (·4H <sub>2</sub> O) Beryllium iodide	262.82	mp 480, bp 530
356	Be <sub>3</sub> N <sub>2</sub> Triberyllium dinitride	55.05	mp ca. 2200 dec
357	BeNH <sub>4</sub> AsO <sub>4</sub> (·1.5H <sub>2</sub> O) Beryllium-ammonium arsenate	165.97	dec 400
358	[Be(NH <sub>3</sub> ) <sub>4</sub> ]Cl <sub>2</sub> Tetraammineberyllium(II) chloride	148.04	dec >200
359	BeNH <sub>4</sub> PO <sub>4</sub> (·H <sub>2</sub> O) Beryllium-ammonium orthophosphate	122.02	700 → Be <sub>2</sub> P <sub>2</sub> O <sub>7</sub>
360	Be(NO <sub>3</sub> ) <sub>2</sub> (·4H <sub>2</sub> O) Beryllium nitrate	133.02	mp hydr 60, dec hydr >160
361	Be <sub>4</sub> (NO <sub>3</sub> ) <sub>6</sub> O Tetraberyllium hexanitrate-oxide	424.07	subl >125
362	BeO Beryllium oxide	25.01	mp 2580, bp 4260

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
318	wh, 4.36	r/+	i	+	+	+	+	+
319	yel	r/+	...	+	+	+	-	-
320	dk-yel	r/+	...	+	+	+	-	-
321	yel-red, 2.99	r/+	i	+	+	+	-	-
322	wh	i	...	+	+	+	i	i
323	wh, 4.50	i	...	i	i	i	i	i
324	wh hydr, 4.54	r	i	+	+	+	-	-
325	wh hydr	r/+	...	+	+	+	+	+
326	wh hydr, 3.45	i	i	+	+	-/+	-	-
327	wh, 5.02	+	...	+	+	+	+	+
328	wh, 4.61	i	...	+	+	-	-	-
329	wh, 4.40(2.58)	i/+	...	-/+	-/+	-/+	-	-
330	lt-yel, 5.13	i/+	...	+	+	+	i	i
331	wh, 4.48	i	...	-/+	-/+	-/+	-	-
332	wh, 6.08	-	i	-/+	-/+	-/+	-	-
333	wh	i	...	-/+	-/+	-/+	-/+	...
334	wh, 5.04	i	...	-/+	-/+	-/+	-/+	...
335	wh	i	...	+	+	+	-	-
336	wh	-	i	+	+	+	-	-
337	grey, 1.85	psv/+	-	+	+/psv	+/psv	-/+	-
338	yel-grn, 3.76	-	...	-	-	-	-/+	-/+
339	wh, 3.47	r/+	r	r	-/+	-	+	+
340	yel-red, 1.90	+	...	+	+	+	+	+
341	wh	i/+	i	-	-	-	-	...
342	wh	-/+	r	-	-/+	-/+	+	+
343	wh	-/+	-	+	+	+	+	+
344	wh	d/+	i	+	+	+	+	+
345	wh	r	...	-	-/+	-/+	+	+
346	wh, 1.90	r/+	r	r	-/+	-	+	+
347	wh	r/+	r	r	-/+	-	+	+
348	wh hydr	r	...	-	-	r	+	+
349	wh	+	...	+	+	+	+	+
350	wh, 1.99	r	d	r	r/+	r	+	+
351	wh	r	i	-/+	-/+	-/+	+	-
352	wh	r	i	-/+	-/+	-/+	+	-
353	wh	d	i	-/+	-/+	-/+	+	-
354	wh	+	+	+	+	+	+	+
355	wh, 4.33	r/+	r	r	-/+	-/+	+	+
356	wh	-/+	i	+	+	+	-/+	-
357	wh	i	i	-/+	-/+	-/+	-/+	-
358	wh	r/+	+	+	+	+	+	r
359	wh	i	i	-/+	-/+	-/+	-/+	-
360	wh hydr	r	r	r	r	r	+	+
361	wh	+	i	+	+	+	+	+
362	wh, 3.02	-	...	-/+	-/+	-/+	-/+	-

No.	Formula and name	$M_r$	Phase transition temperature
363	Be(OH) <sub>2</sub> Beryllium hydroxide	43.03	dec ca. 200
364	BeS Beryllium sulfide	41.08	dec 1800
365	BeSO <sub>4</sub> (·2H <sub>2</sub> O) Beryllium sulfate	105.07	mp 540, dec ca. 600
366	BeSO <sub>4</sub> ·4H <sub>2</sub> O	177.13	-H <sub>2</sub> O ca. 400
367	BeSe Beryllium selenide	87.97	dec <i>t</i>
368	BeSeO <sub>4</sub> (·4H <sub>2</sub> O) Beryllium selenate	151.97	-H <sub>2</sub> O 213, dec 730
369	BeSiO <sub>4</sub> Beryllium orthosilicate	110.11	mp 1560 dec
370	BeTe Beryllium telluride	136.61	dec <i>t</i>
<b>371</b>	<b>Bi Bismuth</b>	208.980	mp 271.44; bp 1564
372	BiAsO <sub>4</sub> Bismuth(III) arsenate	347.90	...
373	(Bi <sup>III</sup> Bi <sup>V</sup> )O <sub>4</sub> (·2H <sub>2</sub> O) Bismuth(III)-bismuth(V) tetraoxide	481.96	-H <sub>2</sub> O 180, dec 305
374	BiBr <sub>3</sub> Bismuth(III) bromide	448.69	mp 218, bp 461
375	Bi(Br)O Bismuth bromide-oxide	304.88	dec ca. 500
376	Bi <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> (·7H <sub>2</sub> O) Bismuth(III) oxalate	682.01	-H <sub>2</sub> O 150, dec 800
377	Bi <sub>2</sub> CO <sub>3</sub> (OH) <sub>4</sub> Dibismuth carbonate-tetrahydroxide	546.00	dec >670
378	BiCl <sub>3</sub> (·H <sub>2</sub> O) Bismuth(III) chloride	315.34	mp 232, bp 441
379	Bi <sub>24</sub> Cl <sub>28</sub> 24-Bismuth 28-chloride	6008.20	mp 163, dec 300
380	Bi(Cl)O Bismuth chloride-oxide	260.43	dec ca. 600
381	BiClO <sub>4</sub> (OH) <sub>2</sub> Bismuth perchlorate-dihydroxide	342.44	-H <sub>2</sub> O 100
382	BiF <sub>3</sub> Bismuth(III) fluoride	265.97	mp 727, bp 900
383	BiF <sub>5</sub> Bismuth(V) fluoride	303.97	mp 151; bp 230
384	BiI <sub>3</sub> Bismuth(III) iodide	589.69	mp 407.7; bp 542 dec
385	Bi(I)O Bismuth iodide-oxide	351.88	dec ca. 500
386	Bi <sub>2</sub> (MoO <sub>4</sub> ) <sub>3</sub> Bismuth(III) molybdate	897.77	mp 643
387	Bi(NO <sub>3</sub> ) <sub>3</sub> (·5H <sub>2</sub> O) Bismuth(III) nitrate	394.99	mp hydr 75.5 dec
388	BiNO <sub>3</sub> (OH) <sub>2</sub> Bismuth nitrate-dihydroxide	305.00	260 → Bi <sub>2</sub> O <sub>3</sub>
389	Bi <sub>2</sub> O <sub>3</sub> Bismuth(III) oxide	465.96	mp 825, bp 1890
390	Bi <sub>2</sub> O <sub>5</sub> (· <i>n</i> H <sub>2</sub> O) Bismuth(V) oxide	497.96	-H <sub>2</sub> O 120, dec >350
391	Bi(O)F Bismuth oxide-fluoride	243.98	dec ca. 500
392	Bi(OH) <sub>3</sub> Bismuth(III) hydroxide	260.00	100 → BiO(OH)
393	BiO(OH) Bismuth metahydroxide	241.99	>150 → Bi <sub>2</sub> O <sub>3</sub>
394	BiPO <sub>4</sub> Bismuth(III) orthophosphate	303.95	dec <i>t</i>
395	Bi <sub>2</sub> S <sub>3</sub> Bismuth(III) sulfide	514.16	mp 685 dec
396	Bi <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> Bismuth(III) sulfate	706.15	dec >400, mp 710 ( <i>p</i> )
397	Bi <sub>2</sub> Se <sub>3</sub> Bismuth(III) selenide	654.84	mp 706, bp 1007
398	Bi <sub>2</sub> Te <sub>3</sub> Bismuth(III) telluride	800.76	mp 585, bp 1172
<b>399</b>	<b>Bk Berkelium</b>	247.070	mp ca. 1050, bp >2630
400	BkO <sub>2</sub> Berkelium(IV) oxide	279.07	dec 500
<b>401</b>	<b>Br<sub>2</sub> Dibromine</b>	159.808	mp -7.25; bp 59.82
402	Br <sub>2</sub> ·7.67H <sub>2</sub> O	297.92	mp 6 dec
403	[BrAg <sub>2</sub> ]NO <sub>3</sub> Di {silver(I)} bromine(-I) nitrate	357.64	mp 182
404	[Br(Br)Cl],Cs Cesium bromochlorobromate(I)	328.17	mp 191 ( <i>p</i> )
405	[Br(Br) <sub>2</sub> ],Cs Cesium dibromobromate(I)	372.62	mp 180
406	[Br(Cl) <sub>2</sub> ],Cs Cesium dichlorobromate(I)	283.72	dec 150, mp 205 ( <i>p</i> )
407	BrF Bromine monofluoride	98.90	mp -33, bp 20 dec
408	BrF <sub>3</sub> Bromine trifluoride	136.90	mp 8.8; bp 125.75
409	BrF <sub>5</sub> Bromine pentafluoride	174.89	mp -60.5; bp 40.76

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
363	wh, 1.92	i	...	+	+	+	+	i
364	lt-grey, 2.36	+	...	+	+	+	+	+
365	wh, 2.44	r	i	-	r/+	-	+	+
366	wh, 1.71	r	i	-	r	-	+	+
367	lt-grey, 4.32	-/+	...	+	+	+	-/+	-
368	wh hydr, 2.03	r	...	-	-	-	+	+
369	wh, 2.98	i	i	-	-/+	-	-/+	-
370	lt-grey, 5.09	-/+	...	+	+	+	-/+	-
371	wh, 9.790	-	-	-	-/psv	+/psv	-	-
372	wh, 7.14	i	i	-	-	-/+	-	-
373	brn	-	...	+	+	+	-	-
374	yel-orange, 5.6	+	r	-	-/+	-	+	+
375	wh, 8.1	-	i	+	+	+	-	-
376	wh	i	i	+	+	+	-	-
377	wh, 6.86	i	i	+	+	+	-	-
378	wh, 4.75	+	r	+	-	-	+	+
379	brn	+	+	+	+	+	+	+
380	wh, 7.72	-	...	+	+	+	-	-
381	wh	r	...	+	+	+	+	+
382	wh, 5.32	i/+	r	i/r	i/r	i/r	-	-
383	wh	+	...	+	+	+	+	+
384	dk-brn, 5.78	i/+	d	-/+	-/+	+	i	i
385	dk-red, 7.92	-	i	+	+	+	-	-
386	yel, 6.07	i	...	+	+	+	-	-
387	wh hydr, 2.83	+	...	-	-	-	+	+
388	wh, 4.93	i	...	+	+	+	-	-
389	yel, 8.90	-	...	+	+	+	-	-
390	red, 5.10	-	...	+	+	+	+	-
391	wh, 7.5	-	i	+	+	+	-	-
392	wh, 4.36	i	...	+	+	+	i	i
393	wh	-	...	+	+	+	i	i
394	wh, 6.32	i	i	+	-/+	-/+	-/+	-
395	brn-blk, 6.38	i	...	-	-	-/+	-	-
396	wh, 5.08	+	...	-	-	-	+	+
397	dk-grey, 6.82	i	i	-/+	-/+	+	-	-
398	blk, 7.7	i	i	-/+	-/+	+	-	-
399	wh, 14.8	-/+	...	+	+/psv	+/psv	-	-
400	yel	-	...	+	+	+	-	-
401	dk-red lq, 3.12 <sup>20</sup>	r/+	+	-	-	-	+	+
402	dk-red, 1.49	+	+	+	+	+	+	+
403	wh	+	...	+	+	+	+	+
404	yel-red	+	...	+	+	+	+	+
405	dk-yel	+	...	+	+	+	+	+
406	yel	+	...	+	+	+	+	+
407	red lq	+	+	+	+	+	+	+
408	lt-yel lq, 2.843 <sup>9</sup>	+	+	+	+	+	+	+
409	cl lq, 2.57 <sup>9</sup>	+	+	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
410	[BrF <sub>4</sub> ],K Potassium tetrafluorobromate <sub>(III)</sub>	194.99	dec >350
411	BrO <sub>2</sub> F Bromine dioxide-fluoride	130.90	mp -9, dec >50
412	[Br(O) <sub>2</sub> (F) <sub>2</sub> ],K Potassium dioxodifluorobromate <sub>(V)</sub>	189.00	dec 87
413	<b>α-C Graphite</b>	12.011	mp ca. 3800; bp ca. 4000
414	<b>β-C Diamond</b>	12.011	1800 → α-C
415	CB <sub>4</sub> Carbon tetrabromide	331.63	mp 92.5; bp 189.5 dec
416	CCl <sub>4</sub> Carbon tetrachloride	153.82	mp -22.96; bp 76.75
417	CCl <sub>2</sub> O Carbon dichloride-oxide	98.92	mp -118.8; bp 7.56
418	CF <sub>4</sub> Carbon tetrafluoride	88.00	mp -183.6; bp -128
419	CH <sub>4</sub> Methane	16.04	mp -182.5; bp -161.6
420	C <sub>2</sub> H <sub>2</sub> Acetylene	26.04	mp -81 (p); bp -83.8
421	C <sub>2</sub> H <sub>4</sub> Ethylene	28.05	mp -169.15; bp -103.7
422	C <sub>6</sub> H <sub>6</sub> Benzene	78.11	mp 5.51; bp 80.10
423	CH <sub>3</sub> C(H)O Acetaldehyde	44.05	mp -123.5; bp 20.2
424	CH <sub>3</sub> CN Acetonitrile	41.05	mp -45.72; bp 81.6
425	CH <sub>3</sub> COOH Acetic acid	60.05	mp 16.75; bp 118.1
426	CHCl <sub>3</sub> Chloroform	119.38	mp -63.5; bp 61.1
427	C <sub>2</sub> H <sub>8</sub> N <sub>2</sub> Ethylenediamine	60.10	mp 8.5; bp 117
428	C <sub>5</sub> H <sub>5</sub> N Pyridine	79.10	mp -41.7; bp 115.2
429	CH <sub>3</sub> OH Methanol	32.04	mp -93.9; bp 64.96
430	C <sub>2</sub> H <sub>5</sub> OH Ethanol	46.07	mp -114.15; bp 78.39
431	Cl <sub>4</sub> Carbon tetraiodide	519.63	mp 171 dec
432	C <sub>2</sub> N <sub>2</sub> Dicyan	52.04	mp -27.83; bp -21.15
433	C <sub>6</sub> N <sub>6</sub> Hexacyan	156.11	mp 119, bp 262
434	(CN)Br Cyanogen bromide	105.92	mp 51.3; bp 61.3
435	(CN)Cl Cyanogen chloride	61.47	mp -6.9; bp 12.66
436	(CN)F Cyanogen fluoride	45.02	mp -82, bp -46
437	C(NH <sub>2</sub> ) <sub>2</sub> O Carbamide	60.06	mp 132.7; dec t
438	(CN)I Cyanogen iodide	152.92	subl >45, mp 146 (p)
439	CO Carbon monooxide	28.01	mp -205.02; bp -191.5
440	CO <sub>2</sub> Carbon dioxide	44.01	subl -78.476
441	COF <sub>2</sub> Carbon oxide-difluoride	66.01	mp -114, bp -83.1
442	CS <sub>2</sub> Carbon disulfide	76.14	mp -111.9; bp 46.24
443	C <sub>3</sub> S <sub>2</sub> Tricarbon disulfide	100.17	mp -1, dec 90
444	CSCl <sub>2</sub> Carbon sulfide-dichloride	114.98	bp 73.5
445	CS(NH <sub>2</sub> ) <sub>2</sub> Thiocarbamide	76.12	mp 176, dec t
446	CSO Carbon sulfide-oxide	60.08	mp -138.82; bp -50.24
447	CSe <sub>2</sub> Carbon diselenide	169.93	mp -45.5; bp 127
448	CSe(NH <sub>2</sub> ) <sub>2</sub> Selenocarbamide	123.02	mp 202 dec
449	C(Se)O Carbon selenide-oxide	106.97	mp -124.4; bp -21.7
450	C(Se)S Carbon selenide-sulfide	123.04	mp -85; bp 84.5
451	C(Te)S Carbon telluride-sulfide	171.68	mp -54; dec >20
452	<b>Ca Calcium</b>	40.078	mp 842, bp 1495
453	(CaAl <sub>2</sub> )O <sub>4</sub> Calcium-dialuminum tetraoxide	158.04	mp 1602 dec
454	Ca <sub>3</sub> As <sub>2</sub> Tricalcium diarsenide	270.08	dec >1300
455	Ca(AsO <sub>2</sub> ) <sub>2</sub> Calcium metaarsenite	253.92	dec >1200
456	Ca <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub> (9H <sub>2</sub> O) Calcium arsenate	398.07	mp 1500 dec

*(Continued)*

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> , H <sub>2</sub> O
410	wh	+	...	+	+	+	+	+
411	cl lq	+	...	+	+	+	+	+
412	wh	+	...	+	+	+	+	+
413	blk, 2.27	-	-	-	-	-/+	-	-
414	wh, 3.52	-	-	-	-	-	-	-
415	lt-yel, 3.42	i/+	r	-	-/+	-/+	+	+
416	cl lq, 1.594 <sup>20</sup>	d/+	∞	-	-	-	-/+	-
417	cl gas, 4.523	+	+	-	-	-	+	+
418	cl gas	i	...	-	-	-	-	-
419	cl gas, 0.7168	d	d	-	-	-	-	-
420	cl gas, 1.1716	d	r	-	-	-	-	-
421	cl gas, 1.245	d	r	-	-	-	-	-
422	cl lq, 0.879 <sup>20</sup>	d	∞	-	-/+	-/+	-	-
423	cl lq, 0.788 <sup>20</sup>	∞	∞	-/+	-/+	-/+	-	-
424	cl lq, 0.784 <sup>20</sup>	∞	∞	-/+	-/+	-/+	-	-
425	cl lq, 1.049 <sup>20</sup>	∞	∞	-	-	-/+	+	+
426	cl lq, 1.483 <sup>20</sup>	d	∞	-	-/+	-/+	-	-
427	cl lq, 0.901 <sup>20</sup>	r	r	+	+	+	-	-
428	cl lq, 0.984 <sup>20</sup>	∞	∞	+	+	+	-	-
429	cl lq, 0.791 <sup>20</sup>	∞	∞	-	-	-	-/+	-
430	cl lq, 0.7893 <sup>20</sup>	∞	∞	-	-	-	-/+	-
431	red, 4.34	i/+	r/+	-	-/+	+	+	+
432	cl gas, 2.335	d/+	r/+	-/+	-/+	-/+	+	...
433	wh	+	r/+	-/+	-/+	-/+	+	-
434	wh, 2.015	+	r	+	+	+	+	+
435	cl gas, 1.222	+	r	+	+	+	+	+
436	cl gas	+	...	+	+	+	+	+
437	wh, 1.335	r	r	+	+	+	-/+	-
438	wh, 2.84	+	r	+	+	+	+	+
439	cl gas, 1.250	d	r	-	-	-	-/+	-
440	cl gas, 1.977	d	d	-	-	-	+	+
441	cl gas, ca. 2.95	+	+	+	+	+	+	+
442	cl lq, 1.261 <sup>22</sup>	d/+	∞	-	-/+	+	+	+
443	red lq, 1.27 <sup>20</sup>	+	∞	-	-/+	+	+	+
444	red lq, 1.509 <sup>15</sup>	+	+	-	-/+	-/+	+	+
445	wh	r	r	-	-/+	-/+	-/+	-
446	cl gas, 2.72	d/+	r	-	-/+	-/+	+	...
447	yel lq, 2.66 <sup>25</sup>	i/+	∞	-	-/+	+	+	+
448	wh	r	r	-	-/+	-/+	-/+	-
449	cl gas	+	r	-	-/+	+	+	+
450	yel lq, 1.99 <sup>20</sup>	i	d	-	-/+	+	+	+
451	red lq	i	i	-	+	+	+	+
452	wh, 1.54	+	+	+	+	+	+	+
453	wh, 3.67	-/+	...	-/+	-/+	-/+	-/+	-
454	red, 3.03	-/+	...	-/+	-/+	-/+	-/+	-
455	wh	d	...	-/+	-/+	+	+	...
456	wh	i	...	i/r	i/+	i/r	-/+	i

No.	Formula and name	$M_r$	Phase transition temperature
457	CaB <sub>6</sub> Calcium hexaboride	104.94	mp 2235
458	Ca(BO <sub>2</sub> ) <sub>2</sub> (·6H <sub>2</sub> O) Calcium metaborate	125.70	-H <sub>2</sub> O 350, mp 1162
459	CaBr <sub>2</sub> Calcium bromide	199.89	mp 742, bp 1830
460	CaBr <sub>2</sub> ·6H <sub>2</sub> O	307.98	mp 38.2; dec 180-200
461	Ca(BrO <sub>3</sub> ) <sub>2</sub> (·H <sub>2</sub> O) Calcium bromate	295.88	-H <sub>2</sub> O 180, dec >200
462	CaC <sub>2</sub> Calcium acetylide	64.10	mp 2160, dec >2200
463	Ca(CH <sub>3</sub> COO) <sub>2</sub> (·2H <sub>2</sub> O) Calcium acetate	158.17	-H <sub>2</sub> O 100, dec <i>t</i>
464	CaCN <sub>2</sub> Calcium cyanamide	80.10	dec 1150; mp 1300 ( <i>p</i> )
465	Ca(CN) <sub>2</sub> Calcium cyanide	92.11	mp 640
466	CaCO <sub>3</sub> (·H <sub>2</sub> O) Calcium carbonate	100.09	ca. 900 → CaO
467	CaC <sub>2</sub> O <sub>4</sub> (·H <sub>2</sub> O) Calcium oxalate	128.10	-H <sub>2</sub> O 200, dec <i>t</i>
468	CaCl <sub>2</sub> Calcium chloride	110.98	mp 782, bp ca. 1960
469	CaCl <sub>2</sub> ·2H <sub>2</sub> O	147.01	-H <sub>2</sub> O >200
470	CaCl <sub>2</sub> ·6H <sub>2</sub> O	219.07	mp 29.92 dec
471	Ca(ClO) <sub>2</sub> (·3H <sub>2</sub> O) Calcium hypochlorite	142.98	mp hydr 86, dec hydr 180
472	Ca(ClO <sub>2</sub> ) <sub>2</sub> Calcium chlorite	174.98	dec 450
473	Ca(ClO <sub>3</sub> ) <sub>2</sub> (·2H <sub>2</sub> O) Calcium chlorate	206.98	-H <sub>2</sub> O 110, dec 340
474	Ca(ClO <sub>4</sub> ) <sub>2</sub> (·4H <sub>2</sub> O) Calcium perchlorate	238.98	-H <sub>2</sub> O 120; dec >300
475	CaCrO <sub>4</sub> (·2H <sub>2</sub> O) Calcium chromate	156.07	-H <sub>2</sub> O 200, mp ca. 1000
476	(CaCr <sub>2</sub> )O <sub>4</sub> Calcium-dichromium tetraoxide	208.07	mp 2170
477	CaF <sub>2</sub> Calcium fluoride	78.07	mp 1419, bp ca. 2530
478	(CaFe <sub>2</sub> )O <sub>4</sub> Calcium-diiron tetraoxide	215.77	mp 1220
479	CaH <sub>2</sub> Calcium hydride	42.09	mp ca. 1000 dec
480	Ca(HCOO) <sub>2</sub> (·2H <sub>2</sub> O) Calcium formate	130.11	dec 400-495
481	CaHPO <sub>4</sub> Calcium hydroorthophosphate	136.06	>900 → Ca <sub>2</sub> P <sub>2</sub> O <sub>7</sub>
482	CaHPO <sub>4</sub> ·2H <sub>2</sub> O	172.09	>360 → Ca <sub>2</sub> P <sub>2</sub> O <sub>7</sub>
483	Ca(H <sub>2</sub> PO <sub>4</sub> ) <sub>2</sub> (·H <sub>2</sub> O) Calcium dihydroorthophosphate	234.05	-H <sub>2</sub> O 109, dec 150-200
484	Ca(HS) <sub>2</sub> (·6H <sub>2</sub> O) Calcium hydrosulfide	106.23	dec hydr >20
485	CaI <sub>2</sub> Calcium iodide	293.89	mp 783, bp 1760
486	CaI <sub>2</sub> ·6H <sub>2</sub> O	401.98	dec ca. 40
487	Ca(IO <sub>3</sub> ) <sub>2</sub> (·H <sub>2</sub> O) Calcium iodate	389.88	dec 540
488	CaMg(CO <sub>3</sub> ) <sub>2</sub> Calcium-magnesium carbonate	184.40	dec ca. 750
489	CaMgSiO <sub>4</sub> Calcium-magnesium orthosilicate	156.47	mp ca. 1500
490	CaMg(SiO <sub>3</sub> ) <sub>2</sub> Calcium-magnesium metasilicate	216.55	mp 1392
491	Ca(MnO <sub>4</sub> ) <sub>2</sub> (·4H <sub>2</sub> O) Calcium permanganate	277.95	dec ca. 200
492	CaMoO <sub>4</sub> Calcium molybdate	200.01	mp 1520
493	Ca(N <sub>3</sub> ) <sub>2</sub> Calcium azide	124.12	dec ca. 140
494	Ca <sub>3</sub> N <sub>2</sub> Tricalcium dinitride	148.25	mp 1195
495	CaNH <sub>4</sub> AsO <sub>4</sub> (·6H <sub>2</sub> O) Calcium-ammonium arsenate	197.04	dec hydr 140
496	[Ca(NH <sub>3</sub> ) <sub>6</sub> ]I <sub>2</sub> Hexaamminecalcium(II) iodide	396.07	dec 96
497	Ca(NO <sub>2</sub> ) <sub>2</sub> (·4H <sub>2</sub> O) Calcium nitrite	132.09	-H <sub>2</sub> O 100
498	Ca(NO <sub>3</sub> ) <sub>2</sub> Calcium nitrate	164.09	mp 561 dec
499	Ca(NO <sub>3</sub> ) <sub>2</sub> ·4H <sub>2</sub> O	236.15	mp 42.5; -H <sub>2</sub> O 208
500	CaO Calcium oxide	56.08	mp ca. 2614, bp 2850
501	CaO <sub>2</sub> (·8H <sub>2</sub> O) Calcium peroxide	72.08	-H <sub>2</sub> O >130, dec >250
502	Ca(OH) <sub>2</sub> Calcium hydroxide	74.09	580 → CaO
503	Ca <sub>3</sub> P <sub>2</sub> Tricalcium disphosphide	182.18	dec >1250

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
457	dk-grey, 2.33	-	i	-	-	+	-	-
458	wh hydr, 2.70(1.88)	+	...	+	+	+	+	-
459	wh, 3.35	r	r	r	+	r	-/+	-
460	wh, 2.30	r	d	r	+	r	+	-
461	wh hydr, 3.33	r	...	-/+	+	-	+	-
462	wh, 2.22	+	i	+	+	+	+	+
463	wh	r	d	r	+	r	+	+
464	wh, 2.29	r/+	i	+	+	+	+	-
465	wh	r/+	...	r/+	+	r	r/+	...
466	wh, 2.93(2.42)	i	...	+	+	+	i	i
467	wh hydr, 2.2	i	...	i/+	-/+	-/+	-/+	i
468	wh, 2.51	r	r	r	+	r	+	+
469	wh, 2.15	r	r	r	+	r	+	+
470	wh, 1.68	r	r	r	+	r	+	+
471	wh, 2.35(2.1)	r/+	+	-/+	-/+	+	+	+
472	wh, 2.71	+	i	+	+	+	+	+
473	wh hydr, 2.71	r	r	-/+	+	r	+	-
474	wh, 2.65	r	r	r	+	-	+	-
475	yel	r	r	+	+	+	+	-
476	dk-grn, 4.8	-	...	-	-/+	-	-/+	-
477	wh, 3.18	i	...	i	i/+	i/r	i	i
478	dk-red, 5.08	-	...	-	-/+	-	-/+	-
479	wh, 1.90	+	+	+	+	+	+	+
480	wh, 2.02	r	i	r	+	-/+	+	+
481	wh, 2.89	d/+	i	+	+	r	+	...
482	wh, 2.31	d/+	i	+	+	r	+	...
483	wh hydr, 2.22	d/+	...	+	+	r	+	...
484	wh	r/+	i	+	+	+	+	-
485	wh, 3.96	r	r	r	+	+	+	+
486	lt-yel, 2.55	r	r	r	+	+	+	+
487	wh, 4.52	d	i	-/+	-/+	d	-/+	...
488	wh, 2.86	i	...	+	+	+	-/+	-
489	wh, 3.2	i	...	-/+	-/+	+	+	-
490	wh, 3.28	i	...	+	+	+	-/+	-
491	dk-red, 2.4	r	+	r/+	+	r/+	r/+	+
492	wh, 4.46	i/+	i	+	+	+	-	-
493	wh	r	d	+	+	+	+	-/+
494	dk-brn, 2.62	+	d	+	+	+	+	+
495	wh hydr, 1.91	d	...	+	+	+	+	-
496	wh	r/+	r	+	+	+	-	r
497	wh, 2.23(1.67)	r	r	-/+	+	-/+	+	-
498	wh, 2.36	r	r	r	+	r	+	-
499	wh, 1.86	r	r	r	+	r	+	+
500	wh, 3.35	+	...	+	+	+	+	+
501	wh, 2.92(1.70)	-/+	i	+	+	+	-/+	...
502	wh, 2.08	d	i	+	+	+	d	d
503	red-brn, 2.51	+	i	+	+/-	+/-	+	+

No.	Formula and name	$M_r$	Phase transition temperature
504	$\text{Ca}(\text{PH}_2\text{O}_2)_2$ Calcium phosphinate	170.05	dec >200
505	$\text{Ca}(\text{PO}_3)_2$ Calcium metaphosphate	198.02	mp 984
506	$\text{Ca}_2\text{P}_2\text{O}_7 \cdot (-5\text{H}_2\text{O})$ Calcium diphosphate	254.10	mp 1358
507	$\text{Ca}_3(\text{PO}_4)_2$ Calcium orthophosphate	310.17	mp 1670
508	$\text{Ca}(\text{PO}_3\text{F}) \cdot (-2\text{H}_2\text{O})$ Calcium fluororthophosphate	138.05	$-\text{H}_2\text{O}$ 170, dec 400
509	$\text{Ca}_5(\text{PO}_4)_3\text{F}$ Pentacalcium triorthophosphate-fluoride	504.30	dec ca. 1800
510	$\text{CaS}$ Calcium sulfide	72.14	mp ca. 2450 dec
511	$\text{CaSO}_3 \cdot (-2\text{H}_2\text{O})$ Calcium sulfite	120.14	$-\text{H}_2\text{O}$ 100, dec 550
512	$\text{CaSO}_4$ Calcium sulfate	136.14	mp 1450 dec
513	$\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$	172.17	$128 \rightarrow \text{CaSO}_4 \cdot 0.5\text{H}_2\text{O}$
514	$\text{CaSO}_4 \cdot 0.5\text{H}_2\text{O}$	145.15	$-\text{H}_2\text{O}$ 163
515	$\text{Ca}(\text{SO}_3\text{S}) \cdot (-6\text{H}_2\text{O})$ Calcium thiosulfate	152.21	dec hydr ca. 250
516	$\text{CaSe}$ Calcium selenide	119.04	mp ca. 1400 dec
517	$\text{CaSeO}_4 \cdot (-2\text{H}_2\text{O})$ Calcium selenate	183.03	dec ca. 1350
518	$\text{CaSi}_2$ Calcium disilicide	96.25	dec ca. 1000
519	$\text{CaSiO}_3 \cdot (-\text{H}_2\text{O})$ Calcium metasilicate	116.16	mp 1544
520	$\text{Ca}_2\text{SiO}_4 \cdot (-\text{H}_2\text{O})$ Calcium orthosilicate	172.24	mp 2130
521	$\text{Ca}_3\text{SiO}_5$ Calcium pentaoxosilicate(IV)	228.32	mp 2070 dec
522	$\text{Ca}_3\text{Si}_2\text{O}_7 \cdot (-3\text{H}_2\text{O})$ Calcium disilicate	288.40	mp 1464
523	$\text{CaTe}$ Calcium telluride	167.68	dec ca. 1600
524	$\text{CaTeO}_3 \cdot (-2\text{H}_2\text{O})$ Calcium tellurite	215.68	dec >960
525	$\text{CaTeO}_4$ Calcium metatellurate	231.67	mp ca. 1000
526	$(\text{CaTi})\text{O}_3$ Calcium-titanium trioxide	135.96	mp 1980
527	$\text{CaWO}_4$ Calcium wolframate	287.92	mp 1580
528	$(\text{CaZr})\text{O}_3$ Calcium-zirconium trioxide	179.30	mp ca. 2350
529	Cadmium	112.411	mp 321.108; bp 766.5
530	$\text{Cd}_3\text{As}_2$ Tricadmium diarsenide	487.08	mp 721
531	$\text{CdBr}_2 \cdot (-2\text{H}_2\text{O})$ Cadmium(II) bromide	272.22	mp 565, bp 863
532	$\text{Cd}(\text{CH}_3\text{COO})_2 \cdot (-2\text{H}_2\text{O})$ Cadmium(II) acetate	230.50	$-\text{H}_2\text{O}$ 130, mp 256 dec
533	$\text{Cd}(\text{CN})_2$ Cadmium(II) cyanide	164.45	dec >200
534	$[\text{Cd}(\text{CN})_4]_2\text{K}_2$ Potassium tetracyanocadmiate(II)	294.68	mp ca. 450
535	$\text{CdCO}_3$ Cadmium(II) carbonate	172.42	>300 $\rightarrow$ CdO
536	$\text{CdC}_2\text{O}_4 \cdot (-3\text{H}_2\text{O})$ Cadmium(II) oxalate	200.43	dec 340
537	$\text{CdCl}_2 \cdot (-2.5\text{H}_2\text{O})$ Cadmium(II) chloride	183.32	mp 568.5; bp 964
538	$\text{Cd}(\text{ClO}_3)_2 \cdot (-2\text{H}_2\text{O})$ Cadmium(II) chlorate	279.31	mp hydr 80
539	$\text{CdF}_2$ Cadmium(II) fluoride	150.41	mp 1072, bp 1753
540	$\text{Cd}(\text{H}_2\text{PO}_4)_2 \cdot (-2\text{H}_2\text{O})$ Cadmium(II) dihydroorthophosphate	306.38	dec hydr 100
541	$\text{CdI}_2$ Cadmium(II) iodide	366.22	mp 388, bp 744
542	$\text{Cd}(\text{IO}_3)_2 \cdot (-6\text{H}_2\text{O})$ Cadmium(II) iodate	462.21	dec 800
543	$\text{Cd}(\text{MnO}_4)_2 \cdot (-6\text{H}_2\text{O})$ Cadmium(II) permanganate	350.28	dec hydr 95
544	$\text{CdMoO}_4$ Cadmium(II) molybdate	272.35	mp ca. 1600
545	$\text{Cd}(\text{NH}_2)_2$ Cadmium(II) amide	144.46	dec 120
546	$\text{Cd}(\text{NH}_4)_2(\text{SO}_4)_2 \cdot (-6\text{H}_2\text{O})$ Cadmium(II)-diammonium sulfate	340.61	$-\text{H}_2\text{O}$ 100
547	$\text{Cd}(\text{NO}_3)_2$ Cadmium(II) nitrate	236.42	mp 353; 700 $\rightarrow$ CdO
548	$\text{Cd}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$	308.48	mp 59.3; $-\text{H}_2\text{O}$ 132

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
504	lt-grey	r	i	-	+	-/+	+	+
505	wh, 2.82	i	...	+	-/+	+	-	-
506	wh, 3.09(2.25)	i	i	-	+	+	-	-
507	wh, 3.14	i	i	i/r	+	i/r	-	-
508	wh	d	...	-	+	+	+	+
509	wh, 3.2	i	i	i/+	+	i/r	-	-
510	wh, 2.59	d/+	...	+	+	+	+	+
511	wh	i	...	+	+	+	-	-
512	wh, 2.96	d	...	-	d/r	-	-	-
513	wh, 2.32	d	...	-	d/r	-	-	-
514	wh, 2.70	d	...	-	d/r	-	-	-
515	wh hydr, 1.87	r/+	r	+	+	+	+	+
516	wh, 3.82	i/+	...	+	+	+	+	-/+
517	wh, 2.93(2.68)	r	...	-	+	-	-/+	-
518	dk-grey, 2.5	-/+	-	+	+	+	+	...
519	wh, 2.92	i	i	+	+	+	-/+	-
520	wh	i/+	i	+	+	+	-/+	-
521	wh	i/+	i	+	+	+	-/+	-
522	wh	i	i	+	+	+	-	-
523	wh, 7.59	i/+	...	+	+	+	+	-/+
524	wh	d	...	+	+	+	+	...
525	wh	i	i	-/+	-/+	-/+	-	-
526	wh, 4.10	-	...	-	-/+	-/+	-	-
527	wh, 6.01	d	i	-/+	-/+	-/+	-	-
528	wh, 4.78	-	...	-/+	+	-/+	-	-
529	wh, 8.642	-	-	+	+	+	-	-
530	dk-grey, 6.21	-	i	-/+	-/+	-/+	-	-
531	wh, 5.20	r	r	-	-/+	-	+	+
532	wh, 2.34(2.01)	r	r	r	-	-	+	+
533	wh, 2.23	d	...	-	-	-	+	+
534	wh, 1.85	r	r	-	-/+	-/+	-/+	-
535	wh, 4.96	i	...	+	+	+	-	-/+
536	wh, 3.32	i	i	+	+	+	-	+
537	wh, 4.05(3.33)	r	d	r	-	-	+	+
538	wh hydr, 2.28	r	r	-/+	-/+	-/+	+	+
539	wh, 6.33	r	r	r	-	-	+	+
540	wh hydr, 2.74	r	i	-	-	-	+	+
541	wh, 5.67	r	r	r	-/+	+	+	+
542	wh, 6.43	d	i	+	-/+	-	+	+
543	viol hydr, 2.81	r	+	-/+	-	-	+	+
544	wh, 5.35	i	i	-/+	-/+	-/+	-	+
545	wh, 3.05	+	+	+	+	+	+	+/r
546	wh hydr, 2.06	r	i	-	r	-	+	+
547	wh	r	r	r	r	r	+	+
548	wh, 2.46	r	r	r	r	r	+	+

No.	Formula and name	$M_r$	Phase transition temperature
549	CdO Cadmium(II) oxide	128.41	subl ca. 900 dec
550	Cd(OH) <sub>2</sub> Cadmium(II) hydroxide	146.43	>300 → CdO
551	Cd <sub>3</sub> P <sub>2</sub> Tricadmium diphosphide	399.18	mp 700
552	Cd <sub>3</sub> P <sub>2</sub> O <sub>7</sub> · (2H <sub>2</sub> O) Cadmium(II) diphosphate	398.76	mp 900
553	CdS Cadmium(II) sulfide	144.48	mp ca. 1480
554	CdSO <sub>4</sub> Cadmium(II) sulfate	208.47	mp 1135 dec
555	CdSO <sub>4</sub> · 2.67H <sub>2</sub> O	256.57	dec >475
556	CdSb Cadmium monostibide	234.16	mp 456
557	CdSe Cadmium(II) selenide	191.37	mp 1250
558	CdSeO <sub>4</sub> · (2H <sub>2</sub> O) Cadmium(II) selenate	255.37	–H <sub>2</sub> O 170
559	CdSiO <sub>3</sub> Cadmium(II) metasilicate	188.49	mp 1242
560	Cd <sub>2</sub> SiO <sub>4</sub> Cadmium(II) orthosilicate	316.90	mp 1252
561	CdTe Cadmium(II) telluride	240.01	mp 1090
<b>562</b>	<b>Ce Cerium</b>	140.115	mp 804, bp ca. 3450
563	CeB <sub>6</sub> Cerium hexaboride	204.98	mp 2190 dec
564	CeBr <sub>3</sub> · (7H <sub>2</sub> O) Cerium(III) bromide	379.83	mp 735, bp 1560
565	CeC <sub>2</sub> Cerium dicarbide	164.14	mp 2250
566	Ce <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> · (10H <sub>2</sub> O) Cerium(III) oxalate	544.28	dec hydr >500
567	CeCl <sub>3</sub> · (7H <sub>2</sub> O) Cerium(III) chloride	246.47	mp 822, bp 1650
568	CeF <sub>3</sub> Cerium(III) fluoride	197.11	mp 1430, bp 2180
569	CeF <sub>4</sub> Cerium(IV) fluoride	216.11	mp >650
570	CeF <sub>4</sub> · H <sub>2</sub> O	234.12	dec 295
571	CeI <sub>3</sub> · (9H <sub>2</sub> O) Cerium(III) iodide	520.83	mp 755, bp 1400
572	Ce <sub>2</sub> (MoO <sub>4</sub> ) <sub>3</sub> Cerium(III) molybdate	760.04	mp 973
573	CeNH <sub>4</sub> (SO <sub>4</sub> ) <sub>2</sub> · (4H <sub>2</sub> O) Cerium(III)-ammonium sulfate	350.28	–H <sub>2</sub> O 150
574	Ce(NO <sub>3</sub> ) <sub>3</sub> · (6H <sub>2</sub> O) Cerium(III) nitrate	326.13	mp hydr 39, dec hydr >200
575	Ce(NO <sub>3</sub> ) <sub>3</sub> OH · (3H <sub>2</sub> O) Cerium trinitrate-hydroxide	343.13	dec hydr 200–550
576	CeO <sub>2</sub> · (nH <sub>2</sub> O) Cerium(IV) oxide	172.11	–H <sub>2</sub> O t, mp 2700 (p)
577	Ce <sub>2</sub> O <sub>3</sub> Cerium(III) oxide	328.23	mp 2180
578	Ce(OH) <sub>3</sub> Cerium(III) hydroxide	191.14	dec 400–500
579	CePO <sub>4</sub> Cerium(III) orthophosphate	235.09	...
580	Ce <sub>2</sub> S <sub>3</sub> Cerium(III) sulfide	376.43	mp ca. 2000
581	Ce(SO <sub>4</sub> ) <sub>2</sub> · (8H <sub>2</sub> O) Cerium(IV) sulfate	332.24	–H <sub>2</sub> O 195, dec 550
582	Ce <sub>2</sub> (S) <sub>2</sub> O <sub>2</sub> Dicerium sulfide-dioxide	344.29	mp ca. 1950
583	Ce <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> · (8H <sub>2</sub> O) Cerium(III) sulfate	568.42	–H <sub>2</sub> O 450, dec 850
584	Ce <sub>2</sub> (SeO <sub>4</sub> ) <sub>3</sub> · (8H <sub>2</sub> O) Cerium(III) selenate	709.10	...
585	Ce <sub>2</sub> (WO <sub>4</sub> ) <sub>3</sub> Cerium(III) wolframate	1023.77	mp 1079
<b>586</b>	<b>Cf Californium</b>	251.080	mp 900; bp 1227
587	CfBr <sub>3</sub> Californium(III) bromide	490.79	mp 700
588	CfCl <sub>3</sub> Californium(III) chloride	357.44	mp 545
<b>589</b>	<b>Cl<sub>2</sub> Dichlorine</b>	70.906	mp –101.03; bp –34.1
590	Cl <sub>2</sub> · 5.75H <sub>2</sub> O	174.49	mp 9.6 dec
591	[ClAg <sub>2</sub> ]NO <sub>3</sub> Di [silver(I)]chlorine(-I) nitrate	313.19	mp 160
592	ClF Chlorine monofluoride	54.45	mp –155.6; bp –100.1
593	ClF <sub>5</sub> Chlorine pentafluoride	130.44	mp –103, bp –14
594	Cl <sub>2</sub> F <sub>6</sub> Dichlorine hexafluoride	184.89	mp –76.31; bp 11.76
595	[ClF <sub>4</sub> ],NO Nitrosyl tetrafluorochlorate(III)	141.45	mp >–25 dec

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
549	brn, 8.15	-	...	+	+	+	-/+	-
550	wh, 4.79	i	...	+	+	+	i/+	+
551	grey-grn, 5.60	-	...	+	+	+	-/+	-/+
552	wh hydr, 4.97	i	i	+	+	+	-	-/+
553	yel, 4.82	i	...	-/+	-/+	+	-	-
554	wh, 4.69	r	i	r	r	r	+	+
555	wh, 3.09	r	i	r	r	r	+	+
556	grey	-	i	-	-/+	-/+	-	-
557	red-brn, 5.81	i	...	+	+	+	-	-
558	wh hydr, 3.63	r	i	r	r	r	+	+
559	wh, 4.93	i	i	-/+	-/+	-/+	-/+	-
560	wh	i	i	+	-/+	-/+	+	+
561	dk-brn, 6.20	i	...	-	-/+	+	-	-
562	grey, 6.668	-/+	-	+	+	+	-	-
563	lt-bl	-	...	-/+	-/+	-/+	+	-/+
564	wh	r/+	r	-/+	-/+	-	+	+
565	red, 5.23	+	...	+	+	+	+	+
566	wh hydr	i	i	-/+	i/+	-/+	i	-
567	wh, 3.97(3.92)	r/+	r	r	-	-	+	+
568	wh, 6.16	i	i	i	-/+	-	-	-
569	wh, 4.77	i	...	+	-/+	-/+	+	-
570	wh, 4.76	i	...	+	-/+	-/+	+	-
571	yel	r/+	r	r	-/+	-/+	+	+
572	yel, 4.83	i	i	-/+	-/+	-/+	-/+	-
573	wh hydr, 2.52	r	...	r	r	r	+	+
574	wh hydr	r	r	-	-	r	+	+
575	red hydr	r/+	...	+	+	+	+	+
576	lt-yel, 7.13	-	...	-/+	-/+	-	-	-
577	yel, 6.86	-/+	...	+	+	+	-	-
578	wh	i	...	+	+	+	i	i
579	red-yel, 5.22	i	-	+	+	+	-	-
580	dk-viol, 5.02	i/+	...	+	+	+	-	-
581	dk-yel, 3.91	r/+	...	+	+	r	+	+
582	brn-blk, 5.99	-	...	+	+	+	-	-
583	wh, 3.91(2.89)	r/d	...	r	r	r	+	+
584	wh, 4.46	r	i	r	r/+	r/+	+	+
585	yel, 6.77	i	...	-/+	-/+	-/+	-/+	-
586	wh	+	...	+	+	+	+	+
587	...	r/+	...	-	-/+	-	+	+
588	...	r/+	...	-	-	-	+	+
589	yel-grn gas, 3.214	+	+	+	+	+	+	+
590	yel, 1.29	+	+	+	+	+	+	+
591	wh	+	...	+	+	+	+	+
592	cl gas	+	+	+	+	+	+	+
593	cl gas	+	+	+	+	+	+	+
594	grn lq, 1.866 <sup>10</sup>	+	+	+	+	+	+	+
595	wh	+	+	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
596	Cl <sub>3</sub> N Trichlorine nitride	120.37	mp -27, dec 70
597	ClO <sub>2</sub> Chlorine dioxide	67.45	mp -59.5; bp 11,0
598	Cl <sub>2</sub> O Dichlorine oxide	86.91	mp -116, bp 2.2
599	Cl <sub>2</sub> O <sub>6</sub> Dichlorine hexaoxide	166.90	mp 3.5; dec >20
600	Cl <sub>2</sub> O <sub>7</sub> Dichlorine heptaoxide	182.90	mp -90, bp 83
601	Cl(O)F <sub>3</sub> Chlorine oxide-trifluoride	108.45	mp -42, bp 29
602	ClO <sub>2</sub> F Chlorine dioxide-fluoride	86.45	mp -115, bp -6
603	ClO <sub>2</sub> F <sub>3</sub> Chlorine dioxide-trifluoride	124.45	mp -81, bp -22
604	ClO <sub>3</sub> F Chlorine trioxide-fluoride	102.45	mp -146; bp 46.7
<b>605</b>	<b>Cm Curium</b>	247.070	mp 1345, bp ca. 3200
606	Cm <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> (·10H <sub>2</sub> O) Curium(III) oxalate	758.19	dec hydr ca. 360
607	CmF <sub>3</sub> Curium(III) fluoride	304.06	mp 1406
608	Cm(NO <sub>3</sub> ) <sub>3</sub> Curium(III) nitrate	433.08	dec <i>t</i>
609	CmO <sub>2</sub> Curium(IV) oxide	279.07	>380 → Cm <sub>2</sub> O <sub>3</sub>
610	Cm <sub>2</sub> O <sub>3</sub> Curium(III) oxide	542.14	mp ca. 2270
611	Cm(OH) <sub>3</sub> Curium(III) hydroxide	298.09	dec <i>t</i>
<b>612</b>	<b>Co Cobalt</b>	58.933	mp 1494, bp 2960
613	(CoAl <sub>2</sub> )O <sub>4</sub> Cobalt-dialuminum tetraoxide	176.89	mp 1960
614	CoAs <sub>2</sub> Cobalt diarsenide	208.78	850 → Co <sub>2</sub> As
615	CoAs <sub>3-x</sub> Cobalt triarsenide	283.70	800 → CoAs <sub>2</sub>
616	Co <sub>2</sub> S Dicobalt arsenide	192.79	mp 958
617	Co <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub> (·8H <sub>2</sub> O) Cobalt(II) arsenate	454.64	-H <sub>2</sub> O 120, dec 1000
618	Co(As)S Cobalt arsenide-sulfide	165.92	1000 → Co <sub>2</sub> As, CoS
619	CoBr <sub>2</sub> Cobalt(II) bromide	218.74	mp 678, bp 927
620	CoBr <sub>2</sub> ·6H <sub>2</sub> O	326.83	mp 48, -H <sub>2</sub> O 130-140
621	[Co(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ] Bis(cyclopentadienyl)cobalt	189.12	mp ca. 174
622	Co(CH <sub>3</sub> COO) <sub>2</sub> (·4H <sub>2</sub> O) Cobalt(II) acetate	177.02	-H <sub>2</sub> O 140, dec <i>t</i>
623	Co(CH <sub>3</sub> COO) <sub>3</sub> Cobalt(III) acetate	236.07	dec 100
624	[Co(C <sub>2</sub> H <sub>8</sub> N <sub>2</sub> ) <sub>3</sub> ]Br <sub>3</sub> (·3H <sub>2</sub> O) Tris(ethylenediamine)cobalt(III) bromide	478.95	mp hydr 271, dec >400
625	[Co(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ]OH Bis(cyclopentadienyl)cobalt(II) hydroxide	206.13	dec <i>t</i>
626	[Co <sup>II</sup> (CN) <sub>6</sub> ] <sub>2</sub> Co <sub>2</sub> (·7H <sub>2</sub> O) Cobalt(II) hexacyanocobaltate(II)	332.91	-H <sub>2</sub> O >280, dec 450
627	[Co(CN) <sub>6</sub> ] <sub>3</sub> K <sub>3</sub> Potassium hexacyanocobaltate(III)	332.34	dec >250
628	[Co(CN) <sub>6</sub> ] <sub>4</sub> K <sub>4</sub> Potassium hexacyanocobaltate(II)	371.43	dec <i>t</i>
629	CoCO <sub>3</sub> Cobalt(II) carbonate	118.94	350 → CoO
630	CoC <sub>2</sub> O <sub>4</sub> (·2H <sub>2</sub> O) Cobalt(II) oxalate	146.95	dec hydr <i>t</i>
631	[Co <sub>2</sub> (CO) <sub>8</sub> ] Octacarbonyldicobalt	341.95	mp 51, >60 → [Co <sub>4</sub> (CO) <sub>12</sub> ]
632	[Co <sub>4</sub> (CO) <sub>12</sub> ] Dodecacarbonyltetracobalt	571.85	dec 300
633	[Co(CO) <sub>2</sub> C <sub>5</sub> H <sub>5</sub> ] Dicarbonyl(cyclopentadienyl)cobalt	180.05	mp -22; bp 139.5
634	[Co(CO) <sub>3</sub> NO] Tricarbonylnitrosylcobalt	172.97	mp -1; bp 78.5 dec
635	CoCl <sub>2</sub> Cobalt(II) chloride	129.84	mp 740, bp 1049
636	CoCl <sub>2</sub> ·6H <sub>2</sub> O	237.93	mp 87, -H <sub>2</sub> O 140
637	Co(ClO <sub>3</sub> ) <sub>2</sub> (·6H <sub>2</sub> O) Cobalt(II) chlorate	225.83	mp hydr 50, dec 100
638	Co(ClO <sub>4</sub> ) <sub>2</sub> (·6H <sub>2</sub> O) Cobalt(II) perchlorate	257.83	mp hydr 170
639	(Co <sup>II</sup> Co <sup>III</sup> )O <sub>4</sub> Cobalt(II)-dicobalt(III) oxide	240.80	>900 → CoO

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
596	yel lq, 1.65 <sup>20</sup>	+	+	+	+	+	+	+
597	yel-grn gas, 3.214	i/+	+	+	+	+	+	+
598	dk-yel gas, 3.89	+	+	+	+	+	+	+
599	dk-red lq, 2.02 <sup>4</sup>	+	+	+	+	+	+	+
600	cl lq, 1.86 <sup>0</sup>	+	i	+	+	+	+	+
601	cl lq	+	+	+	+	+	+	+
602	cl gas	+	+	+	+	+	+	+
603	cl gas	+	+	+	+	+	+	+
604	cl gas	d	...	-	-	-	+	+
605	wh, 13.51	-/+	-	+	+	+	-	...
606	wh hydr	i	...	i	-/+	i/+	+	+
607	wh, 9.7	i	i	-	i/r	i/r	i/+	...
608	wh	r	...	r	r	r	+	+
609	bik	-	...	+	+	+	-	-
610	dk-grn	-	...	+	+	+	-	-
611	wh	i	...	+	+	+	i	i
612	grey, 8.84	-	-	+	+/psv	+/psv	-	-
613	bl	-	i	-	-/+	-	-/+	-
614	wh, 7.4	-	...	-/+	-/+	+	-	-
615	wh, 6.5	-	...	-/+	-/+	+	-	-
616	grey, 8.28	-	...	-	-	+	-	-
617	dk-red hydr, 2.95	i	i	i/r	i/r	i/r	i	-
618	lt-red, 6.33	-	i	-/+	-/+	-/+	-	-
619	grn, 4.91	r	r	r	-/+	-	+	+
620	red-viol, 2.46	r	r	r	-/+	-	+	+
621	viol	-	r	-	-/+	-/+	-	-
622	dk-red hydr, 1.71	r	d	r	-	-	+	+
623	blk-grn	+	+	+	+	+	+	+
624	yel, 1.85	r	...	-/+	-/+	-/+	-/+	r
625	yel	d	r	-	-	-	-	-
626	dk-pink hydr, 1.87	i	i	-	-/+	-/+	+	+
627	lt-yel, 1.88	r	i	-/+	-/+	-/+	-	-
628	red-brn, 2.04	r	i	-/+	-/+	-/+	-/+	-
629	red, 4.13	i	i	+	+	+	i	i
630	pink-red hydr, 3.02	i	...	i	-/+	-/+	i	-/+
631	orange-red, 1.73	-/+	r	-	-/+	+	-	-
632	blk	-	d	-	-/+	+	-	-
633	dk-red lq	-/+	r	-/+	-/+	-/+	-/+	-/+
634	dk-red lq	+	∞	+	+	+	+	+
635	sk-bl, 3.37	r	r	r	-/+	r	+	+
636	pink, 1.92	r	r	r	-/+	r	+	+
637	red hydr, 1.92	r/+	r	-/+	-/+	+	+	+
638	red, 3.33	r	r	-	-/+	-/+	+	+
639	blk-grey, 6.07	-	...	-	+	-	-	-

No.	Formula and name	$M_r$	Phase transition temperature
640	$(\text{Co}^{\text{II}}\text{Co}_2^{\text{III}})_4\text{S}_4$ Cobalt(II)-dicobalt(III) sulfide	305.06	mp 625; >680 $\rightarrow$ CoS
641	$\text{CoF}_2$ Cobalt(II) fluoride	96.93	mp 1127, bp ca. 1740
642	$\text{CoF}_2 \cdot 4\text{H}_2\text{O}$	168.99	$-\text{H}_2\text{O}$ 100, dec 200
643	$\text{CoF}_3 \cdot (3.5\text{H}_2\text{O})$ Cobalt(III) fluoride	115.93	dec 350
644	$[\text{CoH}(\text{CO})_4]$ Hydrotetracarbonylcobalt	171.98	mp $-20$ , bp 10 dec
645	$\text{Co}(\text{HCOO})_2 \cdot (2\text{H}_2\text{O})$ Cobalt(II) formate	148.97	$-\text{H}_2\text{O}$ 140, dec 175
646	$\text{CoI}_2$ Cobalt(II) iodide	312.74	mp 516, bp 760
647	$\text{CoI}_2 \cdot 6\text{H}_2\text{O}$	420.83	mp 27, $-\text{H}_2\text{O}$ 130
648	$\text{Co}(\text{IO}_3)_2$ Cobalt(II) iodate	408.74	dec 200
649	$\text{Co}(\text{IO}_3)_2 \cdot 6\text{H}_2\text{O}$	516.83	mp 61 dec
650	$\text{Co}_2\text{N}$ Dicobalt nitride	131.87	>250 $\rightarrow$ Co
651	$\text{Co}(\text{NCS})_2 \cdot (3\text{H}_2\text{O})$ Cobalt(II) thiocyanate	175.10	$-\text{H}_2\text{O}$ 105
652	$[\text{Co}(\text{NCS})_4], (\text{NH}_4)_2 \cdot (4\text{H}_2\text{O})$ Ammonium tetrakis(thiocyanato)cobaltate(II)	327.35	dec hydr <i>t</i>
653	$[\text{Co}(\text{NH}_3)_6]\text{Br}_2$ Hexaamminecobalt(II) bromide	320.93	dec 250
654	$[\text{Co}(\text{NH}_3)_6]\text{Cl}_2$ Hexaamminecobalt(II) chloride	232.03	>150 $\rightarrow$ $\text{CoCl}_2$
655	$[\text{Co}(\text{NH}_3)_6]\text{Cl}_3$ Hexaamminecobalt(III) chloride	267.48	dec >420
656	$[\text{Co}(\text{NH}_3)_4\text{Cl}_2]\text{Cl} \cdot (\text{H}_2\text{O})$ Tetraamminedichlorocobalt(III) chloride	233.42	$-\text{H}_2\text{O}$ 100, dec >360
657	$[\text{Co}(\text{NH}_3)_5\text{Cl}]\text{Cl}_2$ Pentaamminechlorocobalt(III) chloride	250.45	dec >450
658	$[\text{Co}(\text{NH}_3)_6]\text{I}_2$ Hexaamminecobalt(II) iodide	414.93	dec >120
659	$[\text{Co}(\text{NH}_3)_6]\text{I}_3$ Hexaamminecobalt(III) iodide	541.83	dec < 100
660	$[\text{Co}(\text{NH}_3)_3(\text{NO}_2)_3]$ Triamminetrinitrocobalt	248.04	dec 150
661	$[\text{Co}(\text{NH}_3)_6](\text{NO}_3)_3$ Hexaamminecobalt(II) nitrate	347.13	dec >100
662	$[\text{Co}(\text{NH}_3)_5\text{NO}_2]\text{Cl}_2$ Hexaamminenitrocobalt(III) chloride	261.00	dec >210
663	$\text{Co}(\text{NH}_4)_2(\text{SO}_4)_2$ Cobalt(II)-diammonium sulfate	228.20	dec ca. 200
664	$\text{Co}(\text{NH}_4)_2(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$	395.23	$-\text{H}_2\text{O}$ 80
665	$[\text{Co}(\text{NH}_3)_6]_2(\text{SO}_4)_3 \cdot (5\text{H}_2\text{O})$ Hexaamminecobalt(III) sulfate	610.42	$-\text{H}_2\text{O}$ 150
666	$\text{Co}(\text{NO}_3)_2 \cdot (6\text{H}_2\text{O})$ Cobalt(II) nitrate	182.94	mp hydr 55, >180 $\rightarrow$ $(\text{Co}^{\text{II}}\text{Co}_2^{\text{III}})_4\text{O}_4$
667	$[\text{Co}(\text{NO}_3)_3]$ Trinittrosylcobalt	148.95	dec 100
668	$[\text{Co}(\text{NO}_2)_6], \text{K}_3 \cdot (1.5\text{H}_2\text{O})$ Potassiumhexanitrocobaltate(III)	452.26	dec >200
669	$[\text{Co}(\text{NO}_2)_6], \text{K}_2\text{Na} \cdot (\text{H}_2\text{O})$ Dipotassium-sodium hexanitrocobaltate(III)	436.15	mp hydr 135
670	$[\text{Co}(\text{NO}_2)_6], \text{Na}_3$ Sodium hexanitrocobaltate(III)	403.93	dec >250
671	$\text{Co}_{1-x}\text{O}$ Cobalt(II) oxide	74.93	mp 1810; dec 2800
672	$\text{Co}_2\text{O}_3 \cdot (n\text{H}_2\text{O})$ Cobalt(III) oxide	165.86	hydr 250 $\rightarrow$ $\text{CoO}(\text{OH})$
673	$\text{Co}(\text{OH})_2$ Cobalt(II) hydroxide	92.95	>170 $\rightarrow$ CoO
674	$\text{CoO}(\text{OH})$ Cobalt metahydroxide	91.94	600 $\rightarrow$ $(\text{Co}^{\text{II}}\text{Co}_2^{\text{III}})_4\text{O}_4$
675	$\text{CoP}$ Cobalt monophosphide	89.91	dec >600
676	$\text{Co}_2\text{P}$ Dicobalt phosphide	148.84	dec >750
677	$\text{Co}_3(\text{PO}_4)_2 \cdot (8\text{H}_2\text{O})$ Cobalt(II) orthophosphate	366.74	$-\text{H}_2\text{O}$ 200
678	$\text{CoS}_{1+x}$ ( $x = 0.04-0.13$ ) Cobalt(II) sulfide	91.00	mp 1118

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
640	dk-grey, 4.86	i	i	-/+	-/+	-/+	-	-
641	pink-red, 4.43	r/+	i	-	-/+	-	+	+
642	pink, 2.19	r/+	i	-	-/+	-/+	+	+
643	lt-brn, 3.88(2.31)	+	i	+	+	+	+	+
644	yel lq	+	...	+	+	+	+	+
645	red hydr, 2.13	r	d	r	-	-	+	+
646	grey-blk, 5.58	r	r	r	-/+	-/+	+	+
647	dk-red, 2.90	r	r	r	-/+	-/+	+	+
648	viol-sk-bl, 5.01	d	...	+	-/+	+	+	+
649	red, 3.69	d	...	+	-/+	+	+	+
650	grey-blk, 6.4	-/+	...	+	+	+	+	+
651	red-viol	r	r	-/+	-/+	-/+	+	+
652	bl hydr	r	r	-/+	-/+	-/+	+	+
653	dk-pink, 1.87	+	...	+	+	+	+	r
654	lt-red, 1.48	+	i	+	+	+	+	r/i
655	dk-brn, 1.70	r/+	i	+	+	+	+	r
656	grn, 1.86(1.85)	d	i	+	+	+	+	-/+
657	dk-red, 1.78	d/+	i	+	+	+	+	-/+
658	pink, 2.10	+	...	+	+	+	+	r
659	dk-red, 2.75	r	i	+	+	+	+	r/+
660	yel, 1.99	+	...	+	+	+	+	...
661	yel, 1.80	d	i	+	+	+	+	r
662	yel-brn, 1.80	r	i	+	+	+	+	-/+
663	bl-viol	r	i	-	-/+	-	+	+
664	red, 1.90	r	i	-	-/+	-	+	+
665	dk-yel, 1.80	d	i	+	+	+	+	r
666	red hydr, 1.87	r	r	-	-	r	+	+
667	blk	+	...	+	+	+	+	+
668	yel	d/+	i	-	-/+	-/+	...	...
669	yel hydr, 1.63	d	i	-	-/+	-/+	...	...
670	yel	r/+	d	+	+	+	-/+	-
671	dk-grn, 6.47	-	-	+	+	+	-/+	-
672	dk-brn hydr, 5.18	i	i	+	-/+	-/+	i	+
673	pink-red, 3.60	i	i	+	+	+	i/+	-/+
674	dk-brn, 4.60	i	i	+	-/+	-/+	i	-/+
675	grey-blk, 7.4	-/+	...	-/+	-/+	-/+	-/+	-
676	grey-blk, 6.4	-	...	-	-/+	-/+	-	-
677	pink, 2.59(2.77)	d	i	+	+	+	-/+	+
678	blk-grey, 5.45	i	i	-/+	-/+	-/+	-	-

No.	Formula and name	$M_r$	Phase transition temperature
679	Co(S <sub>2</sub> ) Cobalt(II) disulfide(2-)	123.07	mp 953 dec (→ CoS)
680	CoSO <sub>4</sub> · (7H <sub>2</sub> O) Cobalt(II) sulfate	155.00	-H <sub>2</sub> O 420, dec >600
681	CoSe Cobalt(II) selenide	137.89	mp 1055
682	CoSeO <sub>4</sub> · (7H <sub>2</sub> O) Cobalt(II) selenate	201.89	dec hydr >500
683	CoSi Cobalt monosilicide	87.02	mp 1395
684	CoSi <sub>2</sub> Cobalt disilicide	115.11	mp 1327
685	Co <sub>2</sub> Si Dicobalt silicide	145.95	mp 1332
686	Co <sub>2</sub> SiO <sub>4</sub> Cobalt(II) orthosilicate	209.95	mp 1415
<b>687</b>	<b>Cr Chromium</b>	51.996	mp 1890, bp 2680
688	CrB Chromium monoboride	62.81	mp 2070
689	CrBr <sub>2</sub> Chromium(II) bromide	211.80	mp 842
690	CrBr <sub>3</sub> Chromium(III) bromide	291.71	subl 600-698
691	CrBr <sub>3</sub> · 6H <sub>2</sub> O	399.80	dec <i>t</i>
692	[Cr(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ] Bis(cyclopentadienyl)chromium	182.19	mp 173.5
693	[Cr(C <sub>6</sub> H <sub>6</sub> ) <sub>2</sub> ] Dibenzenechromium	208.22	mp 284; >300 → Cr
694	[Cr(CN) <sub>6</sub> ],K <sub>3</sub> Potassium hexacyanochromate(III)	325.40	dec >150
695	[Cr(CO) <sub>6</sub> ] Hexacarbonylchromium	220.06	mp 155 ( <i>p</i> ), dec 120-200
696	CrCl <sub>2</sub> Chromium(II) chloride	122.90	mp 824, bp 1330
697	CrCl <sub>3</sub> Chromium(III) chloride	158.36	mp 1150, dec 1300
698	CrCl <sub>3</sub> · 6H <sub>2</sub> O	266.45	mp 95, dec 300
699	Cr(Cl)O Chromium chloride-oxide	103.45	800 → Cr <sub>2</sub> O <sub>3</sub> ,CrCl <sub>3</sub>
700	CrCl <sub>2</sub> O <sub>2</sub> Chromium dichloride-dioxide	154.90	mp -97, bp 117
701	CrCl <sub>3</sub> O Chromium trichloride-oxide	174.35	>60 → CrCl <sub>2</sub> O <sub>2</sub> ,CrCl <sub>3</sub>
702	CrF <sub>2</sub> Chromium(II) fluoride	89.99	mp 894; bp 1820
703	CrF <sub>3</sub> Chromium(III) fluoride	108.99	mp ca. 1400
704	CrF <sub>4</sub> Chromium(IV) fluoride	127.99	mp ca. 200
705	CrF <sub>5</sub> Chromium(V) fluoride	146.99	mp 30
706	(Cr <sub>2</sub> Fe)O <sub>4</sub> Dichromium-iron tetraoxide	223.84	mp 2200
707	[Cr(H <sub>2</sub> O) <sub>4</sub> Br <sub>2</sub> ]Br · (2H <sub>2</sub> O) Tetraaquadibromochromium(III) bromide	399.80	dec hydr <i>t</i>
708	[Cr <sub>2</sub> (H <sub>2</sub> O) <sub>2</sub> (CH <sub>3</sub> COO) <sub>4</sub> ] Diaquatetraacetatodichromium	376.20	-H <sub>2</sub> O 100
709	[Cr(H <sub>2</sub> O) <sub>3</sub> Cl <sub>3</sub> ] Triaquatrchlorochromium	212.40	dec >200
710	[Cr(H <sub>2</sub> O) <sub>4</sub> Cl <sub>2</sub> ] Tetraaquadichlorochromium	194.96	dec >113
711	[Cr(H <sub>2</sub> O) <sub>4</sub> Cl <sub>2</sub> ]Cl · (2H <sub>2</sub> O) Tetraaquadichlorochromium(III) chloride	230.42	mp hydr 83; dec 650
712	[Cr(H <sub>2</sub> O) <sub>3</sub> Cl]Cl <sub>2</sub> · (H <sub>2</sub> O) Pentaaquachlorochromium(III) chloride	248.43	dec hydr >50
713	[Cr(H <sub>2</sub> O) <sub>4</sub> (OH) <sub>2</sub> ] Tetraaquadihydroxochromium	158.07	dec >150
714	CrI <sub>2</sub> Chromium(II) iodide	305.81	mp 795, dec 870
715	CrI <sub>3</sub> Chromium(III) iodide	432.71	mp 857; >670 → CrI <sub>2</sub>
716	CrI <sub>3</sub> · 9H <sub>2</sub> O	594.84	dec 350
717	CrN Chromium mononitride	66.00	>1500 → Cr <sub>2</sub> N
718	Cr <sub>2</sub> N Dichromium nitride	118.00	mp 1650
719	[Cr(NCS) <sub>6</sub> ],K <sub>3</sub> · (4H <sub>2</sub> O) Potassium hexakis(thiocyanato)chromate(III)	517.79	-H <sub>2</sub> O 110; dec <i>t</i>
720	[Cr(NH <sub>3</sub> ) <sub>6</sub> ]Cl <sub>3</sub> Hexaamminechromium(III) chloride	260.54	dec >600

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
679	grey-blk, 4.27	i	i	-/+	-/+	-/+	-	-
680	red-pink, 3.71(1.95)	r	d	-	r	r	+	+
681	red-viol, 7.65	i	i	-/+	-/+	-/+	i	-
682	red hydr, 2.14	r	d	-	-	-	+	+
683	red, 6.30	-	...	+	-/+	-/+	-/+	-
684	dk-bl, 5.3	-	...	+	-/+	-/+	-/+	-
685	grey, 7.28	-	...	+	-/+	-/+	-/+	-
686	viol, 4.63	i	...	+	+	+	-/+	-/+
687	grey, 7.140	-	...	+	+/psv	+/psv	-	-
688	grey, 6.17	-	...	-	-/+	-/+	-/+	-
689	wh, 4.36	r	r	r	r/+	+	+	+
690	grn-blk, 4.25	r/+	r	-/+	-/+	-	+	+
691	viol, 5.4	r/+	r	-/+	-/+	-	+	+
692	red	-/+	r	-	-/+	+	-/+	...
693	brn-blk	+	r	+	+	+	+	+
694	lt-yel, 1.71	r	i	-	-/+	-/+	-	-
695	wh, 1.77	-	i	-	-	-/+	-	-
696	wh, 2.90	r	d	r	r/+	+	+	+
697	viol-red, 2.76	r/+	d	-/+	-	r	+	+
698	grey-sk-bl, 1.76	r/+	r	-/+	-	r	+	+
699	viol-grn, 3.50	-	-	-	-	-	-/+	-
700	dk-red lq, 1.911 <sup>20</sup>	+	+	+	+	+	+	+
701	dk-red	+	...	+	+	+	+	+
702	grn, 4.11	d	i	-	-/+	-	+	+
703	grn, 3.78	d	i	-/+	-/+	-	+	+
704	brn, 2.89	+	i	+	+	+	+	+
705	red	+	+	+	+	+	+	+
706	brn-blk, 4.97	-	...	-/+	-/+	-/+	-/+	-
707	grn hydr	r	r	+/-	-/+	-	+	+
708	red (t → brn)	d/+	d	+	+	+	-	-
709	brn	+	...	+	+/-	+/-	+	+
710	dk-sk-bl	+	d	+	+	+	+	+
711	dk-grn hydr, 1.585	r	r	+/-	+/-	+/-	+	+
712	lt-grn hydr, 1.76	r	r	+/-	+/-	+/-	+	+
713	yel	i	...	+	+	+	i	i
714	red-brn, 5.02	r	...	r	r/+	+	+	+
715	blk, 4.92	r/+	...	i/+	i/+	i/+	+	+
716	viol	i	...	i/+	i/+	i/+	+	+
717	blk, 5.8	-	-	-	-/+	-/+	-	-
718	blk	-	-	-	-/+	-/+	-	-
719	red-viol hydr, 1.71	r	r	-	-/+	-/+	-	-
720	orange-yel, 1.59	r/+	d	+	+	+	+	-

No.	Formula and name	$M_r$	Phase transition temperature
721	[Cr(NH <sub>3</sub> ) <sub>5</sub> Cl]Cl <sub>2</sub> Pentaamminechlorochromium(III) chloride	243.51	dec >550
722	[Cr(NH <sub>3</sub> ) <sub>2</sub> (NCS) <sub>4</sub> ],NH <sub>4</sub> · (H <sub>2</sub> O) Ammonium diamminetetraakis(thiocyanato)chromate(III)	336.43	-H <sub>2</sub> O 100
723	CrNH <sub>4</sub> (SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Chromium-ammonium sulfate	262.16	mp hydr 94, dec >100
724	[Cr(NO) <sub>4</sub> ] Tetranitrosylchromium	172.02	dec >20; mp 38.5 ( <i>p</i> )
725	Cr(NO <sub>3</sub> ) <sub>3</sub> · (9H <sub>2</sub> O) Chromium(III) nitrate	238.01	mp hydr 38.5; dec hydr >125
726	CrO Chromium(II) oxide	68.00	>700 → Cr <sub>2</sub> O <sub>3</sub>
727	CrO <sub>2</sub> Chromium(IV) oxide	83.99	dec 450
728	CrO <sub>3</sub> Chromium(VI) oxide	99.99	mp 195, dec 220-500
729	Cr <sub>2</sub> O <sub>3</sub> Chromium(III) oxide	151.99	mp 2340, bp 3000
730	CrOF <sub>4</sub> Chromium oxide-tetrafluoride	143.99	mp 55
731	CrO <sub>2</sub> F <sub>2</sub> Chromium dioxide-difluoride	121.99	mp 30
732	Cr(OH) <sub>3</sub> Chromium(III) hydroxide	103.02	100 → CrO(OH)
733	[Cr(OH) <sub>6</sub> ],Na <sub>3</sub> Sodium hexahydroxochromate(III)	223.01	dec >200
734	CrO(OH) Chromium metahydroxide	85.00	1000 → Cr <sub>2</sub> O <sub>3</sub>
735	CrP Chromium monophosphide	82.97	dec >700
736	[Cr(PF <sub>3</sub> ) <sub>6</sub> ] Hexakis(trifluorophosphorus)chromium	579.80	subl 20, mp 193
737	CrPO <sub>4</sub> Chromium(III) orthophosphate	146.97	dec >1000
738	CrPO <sub>4</sub> · 6H <sub>2</sub> O	255.06	mp 100, -H <sub>2</sub> O 300
739	CrS Chromium(II) sulfide	84.06	mp 1550
740	Cr <sub>2</sub> S <sub>3</sub> Chromium(III) sulfide	200.19	mp ca. 1000, dec 1350
741	CrSO <sub>4</sub> · (7H <sub>2</sub> O) Chromium(II) sulfate	148.06	dec hydr >100
742	Cr <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> Chromium(III) sulfate	392.18	dec >700
743	Cr <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> · 18H <sub>2</sub> O	716.45	mp 80, -H <sub>2</sub> O 115
744	CrTi(SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Chromium(III)-thallium(I) sulfate	448.50	mp hydr 92
<b>745</b>	<b>Cs Cesium</b>	<b>132.905</b>	<b>mp 28.7; bp 667.6</b>
746	CsAl(SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Cesium-aluminum sulfate	352.01	mp hydr 117
747	CsBr Cesium bromide	212.81	mp 636, bp 1297
748	CsBrO <sub>3</sub> Cesium bromate	260.81	mp 420 dec
749	Cs(CH <sub>3</sub> COO) Cesium acetate	191.95	mp 194
750	CsCN Cesium cyanide	158.92	dec <i>t</i>
751	Cs <sub>2</sub> CO <sub>3</sub> Cesium carbonate	325.82	mp 793 ( <i>p</i> ), dec >620
752	CsCl Cesium chloride	168.36	mp 645, bp 1302
753	CsClO <sub>3</sub> Cesium chlorate	216.36	mp 388, dec <i>t</i>
754	CsClO <sub>4</sub> Cesium perchlorate	232.35	dec 700
755	Cs <sub>2</sub> CrO <sub>4</sub> Cesium chromate	381.80	mp 982
756	Cs <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> Cesium dichromate	481.80	dec ca. 600
757	CsCr(SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Cesium-chromium(III) sulfate	377.03	mp hydr 116
758	CsF · (1.5H <sub>2</sub> O) Cesium fluoride	151.90	mp 703, bp 1251
759	CsFe(SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Cesium-iron(III) sulfate	380.88	dec hydr 175
760	Cs <sub>2</sub> Fe(SO <sub>4</sub> ) <sub>2</sub> · (6H <sub>2</sub> O) Dicesium-iron(II) sulfate	513.78	dec hydr <i>t</i>
761	CsGa(SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Cesium-gallium(III) sulfate	394.75	dec hydr 250
762	CsH Cesium hydride	133.91	mp ca. 400 ( <i>p</i> )

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
721	dk-red, 1.69	r/+	d	i/+	+	+	+	+
722	dk-red	r/+	r	+	+	+	+	+
723	viol hydr, 1.72	d	r	-/+	d/r	-	+	+
724	blk-brn	+	r	+	+	+	+	+
725	dk-red hydr	r	r	-/+	r	r	+	+
726	blk	-	...	+	+	+	-	...
727	blk	-	...	-	-	-/+	-	-
728	red, 2.70	+	r/+	+	+	+	+	+
729	dk-grn, 5.21	-	-	-	-	-	-	-
730	red	-/+	+	+	+	+	+	+
731	red-viol	+	+	+	+	+	+	+
732	grey-sk-bl, 2.9	i	i	+	+	+	+	i
733	grn	+	i	+	+	+	+/r	+
734	grn	i	i	+	+	+	+	i
735	dk-grey, 5.7	-	...	-/+	-	-/+	-/+	-
736	wh	i/+	r	+	+	-/+	+	...
737	grey-brn, 3.05	i	i	-/+	-/+	-/+	-/+	-
738	grn-viol, 2.12	i	i	-/+	-/+	-/+	-/+	-
739	blk, 4.85	i	...	+	+	+	+	+
740	blk, 3.77	i	+	i/+	i/+	+	+	+
741	sk-bl hydr	r	d	r	-/...	+	+	+
742	lt-pink, 3.01	r	r	-/+	r	r	+	+
743	viol, 1.7	r	r	-/+	r	r	+	+
744	viol hydr, 2.39	r	i	-	r	-	+	+
745	yel, 1.873	+	+	+	+	+	+	+
746	wh hydr, 1.97	d	i	-/+	d/r	-	+	+
747	wh, 4.44	r	r	r	-/+	-	-	-
748	wh, 4.11	r	...	-	-	-	-	-
749	wh	r	r	r	r	r	r	r
750	wh, 2.93	r	i	r	r	r	r	r
751	wh	r	r	+	+	+	-	-
752	wh, 3.99	r	r	r	r/+	r	-	r
753	wh, 3.57	r	...	-/+	-	-	-	-
754	wh, 3.33	d	d	-	-	-	-	-
755	yel, 4.24	r	...	+	+	+	r	r
756	orange-red	d/r	i	r/+	r	r	+	+
757	viol hydr, 2.06	r	...	-/+	r	-	+	+
758	wh, 4.12	r	i	-	-	-	-	-
759	lt-viol hydr, 2.06	r	i	-	r	-	+	+
760	lt-grn hydr, 2.79	r	i	-	r	-/+	+	+
761	wh hydr, 2.11	d	i	-	r	-	+	+
762	wh, 3.41	+	+	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
763	CsHCO <sub>3</sub> Cesium hydrocarbonate	193.92	dec 175
764	Cs(HCOO) Cesium formate	177.92	mp 265
765	CsHSO <sub>4</sub> Cesium hydrosulfate	229.98	ca. 220 → Cs <sub>2</sub> S <sub>2</sub> O <sub>7</sub>
766	CsI Cesium iodide	259.81	mp 632, bp 1280
767	CsIO <sub>3</sub> Cesium iodate	307.81	mp 565
768	CsIO <sub>4</sub> Cesium periodate	323.81	dec >900
769	CsMnO <sub>4</sub> Cesium permanganate	251.84	dec 320
770	CsMn(SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Cesium-manganese(III) sulfate	379.97	mp hydr 40 dec
771	CsN <sub>3</sub> Cesium azide	174.93	mp 326, dec 390
772	Cs <sub>3</sub> N Tricesium nitride	412.72	dec <i>t</i>
773	CsNH <sub>2</sub> Cesium amide	148.93	mp 261, dec ca. 500
774	CsNO <sub>2</sub> Cesium nitrite	178.91	mp 398
775	CsNO <sub>3</sub> Cesium nitrate	194.91	mp 414, 585 → CsNO <sub>2</sub>
776	CsNO <sub>3</sub> · HNO <sub>3</sub>	257.92	mp 104; 650 → CsNO <sub>2</sub>
777	CsNO <sub>3</sub> · 2HNO <sub>3</sub>	320.93	mp 39; 670 → CsNO <sub>2</sub>
778	CsO <sub>2</sub> Cesium superoxide	164.90	mp 515, dec >400
779	CsO <sub>3</sub> Cesium ozonide	180.90	dec 82
780	Cs <sub>2</sub> O Cesium oxide	281.81	>300 → Cs <sub>2</sub> O <sub>2</sub>
781	Cs <sub>2</sub> O <sub>2</sub> Cesium peroxide	297.81	mp 594; dec 640
782	CsOH · (H <sub>2</sub> O) Cesium hydroxide	149.91	mp hydr 180, mp 346
783	Cs <sub>2</sub> S · (4H <sub>2</sub> O) Cesium sulfide	297.88	dec hydr 150
784	Cs <sub>2</sub> (S <sub>2</sub> ) Cesium disulfide(2-)	329.94	mp 460
785	Cs <sub>2</sub> (S <sub>3</sub> ) Cesium trisulfide(2-)	362.01	mp 217
786	Cs <sub>2</sub> (S <sub>5</sub> ) Cesium pentasulfide(2-)	426.14	mp 210
787	Cs <sub>2</sub> (S <sub>6</sub> ) Cesium hexasulfide(2-)	458.21	mp 185
788	Cs <sub>2</sub> SO <sub>4</sub> Cesium sulfate	361.87	subl 900, mp 1019
789	Cs <sub>2</sub> S <sub>2</sub> O <sub>7</sub> Cesium disulfate	441.94	mp 280
790	Cs <sub>3</sub> Sb Tricesium stibide	520.47	mp 725
791	Cs <sub>2</sub> SeO <sub>4</sub> Cesium selenate	408.77	mp 985
792	CsV(SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Cesium-vanadium(III) sulfate	375.97	mp hydr 82, -H <sub>2</sub> O 230
<b>793</b>	<b>Cu Copper</b>	63.546	mp 1084.5; bp 2540
794	Cu <sub>3</sub> As Tricopper arsenide	265.56	mp 830
795	Cu <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub> · (4H <sub>2</sub> O) Copper(II) arsenate	468.40	-H <sub>2</sub> O 410, mp 1100
796	Cu <sub>3</sub> AsS <sub>4</sub> Copper(I) tetrathioarsenate	393.82	dec <i>t</i>
797	CuBr Copper(I) bromide	143.45	mp 504, bp 1350
798	CuBr <sub>2</sub> · (4H <sub>2</sub> O) Copper(II) bromide	223.35	mp 498 dec
799	Cu(BrO <sub>3</sub> ) <sub>2</sub> · (6H <sub>2</sub> O) Copper(II) bromate	319.35	-H <sub>2</sub> O 200
800	Cu <sub>2</sub> C <sub>2</sub> Copper(I) acetylide	151.11	>20 → Cu,C
801	CuCN Copper(I) cyanide	89.56	mp 473, dec 550
802	Cu(CN) <sub>2</sub> Copper(II) cyanide	115.58	dec >20
803	CuC <sub>2</sub> O <sub>4</sub> · (H <sub>2</sub> O) Copper(II) oxalate	151.56	420 → CuO
804	Cu <sub>2</sub> CO <sub>3</sub> (OH) <sub>2</sub> Copper(II) carbonate-dihydroxide	221.11	200 → CuO
805	CuCl Copper(I) chloride	99.00	mp 430, bp 1212
806	CuCl <sub>2</sub> Copper(II) chloride	134.45	mp 596, bp 993 dec
807	CuCl <sub>2</sub> · 2H <sub>2</sub> O	170.48	-H <sub>2</sub> O 110
808	Cu(ClO <sub>3</sub> ) <sub>2</sub> · (6H <sub>2</sub> O) Copper(II) chlorate	230.45	mp 65, dec 100

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
763	wh	r	r	+	+	+	+	+
764	wh	r	r	r	-/+	-/+	-	-
765	wh, 3.35	r	i	-	r	-	+	+
766	wh, 4.51	r	r	r	-/+	-/+	r	r
767	wh, 4.85	d	...	-/+	d	d	-	-
768	wh, 4.26	d	d	d	d	d	d	d
769	viol, 3.60	d	+	-/+	-	-	-	-/+
770	dk-red hydr	+	i	+	+	+	+	+
771	wh, 2.93	r	d	r	-/+	-/+	r	-
772	dk-red	+	...	+	+	+	+	+
773	wh, 3.44	+	...	+	+	+	+	+
774	yel	r	r	r/+	-/+	r/+	r	r
775	wh, 3.69	r	...	r	r	r	r	r
776	wh	+	+	+	+	+	+	+
777	wh	+	+	+	+	+	+	+
778	yel-orange, 3.80	+	+	+	+	+	+	+
779	red, 3.19	+	+	+	+	+	+	+
780	orange, 4.68	+	+	+	+	+	+	+
781	wh, 4.74	+	+	+	+	+	+	+
782	wh, 3.68	r	r	+	+	+	r	r
783	wh hydr	r/+	r	+	+	+	r	-
784	yel	r/+	r	+	+	+	-	-
785	orange	r/+	r	+	+	+	-	-
786	red, 2.81	r/+	r	+	+	+	-	-
787	red-brn	r/+	r	+	+	+	-	-
788	wh, 4.24	r	i	r	r	r	r	r
789	wh	r	...	-	-	-	-	-
790	blk	+	...	+	+	+	+	+
791	wh, 4.45	r	...	-	-	-	-	-
792	red hydr, 2.03	d	i	-	d	-	-/+	-
793	red, 8.920	-	-	-	-/+	+	-	+
794	dk-grey	-	...	-	-/+	-/+	-/+	-
795	bl-grn hydr	i/+	i	r/+	r	r	i	+
796	grey-blk, 4.44	i	...	-/+	-/+	-/+	-/+	-/+
797	wh, 4.72	i/+	...	-/+	-/+	-	-	+
798	grn-blk, 4.77	r	r	r/+	-/+	-	+	+
799	grn-sk-bl hydr, 2.58	r	...	-/+	-	-	+	+
800	red-brn	-/+	+	+	+	+	+	+
801	wh, 2.92	i	...	i/+	i/+	i/+	+	+
802	brn-yel	i	...	r/+	r	r	+	+
803	sk-bl hydr	i	...	-/+	-/+	-/+	-/+	+
804	dk-grn, 4.05	i/+	i	+	+	+	-	-/+
805	wh, 4.14	i/+	...	i/+	-/+	-/+	-	+
806	dk-brn, 3.39	r	r	r/+	r	r	+	+
807	sk-bl, 2.51	r	r	r/+	r	r	+	+
808	grn hydr	r	r	-/+	r	-/+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
809	Cu(ClO <sub>4</sub> ) <sub>2</sub> Copper(II) perchlorate	262.44	dec 230
810	Cu(ClO <sub>4</sub> ) <sub>2</sub> ·6H <sub>2</sub> O	370.53	mp 82, dec 120
811	CuCrO <sub>2</sub> Copper(II) dioxochromate(III)	147.54	dec ca. 1700
812	CuF <sub>2</sub> Copper(II) fluoride	101.54	mp 950 dec
813	CuF <sub>2</sub> ·2H <sub>2</sub> O	137.57	dec 280
814	CuH Copper(I) hydride	64.55	dec >20
815	Cu(HCOO) <sub>2</sub> ·(4H <sub>2</sub> O) Copper(II) formate	153.58	dec <i>t</i>
816	[Cu <sub>2</sub> (H <sub>2</sub> O) <sub>2</sub> (CH <sub>3</sub> COO) <sub>4</sub> ] Diaquatetraacetatodicopper	399.30	dec 240
817	CuI Copper(I) iodide	190.45	mp 605, bp 1320
818	Cu(IO <sub>3</sub> ) <sub>2</sub> ·(0.67H <sub>2</sub> O) Copper(II) iodate	413.35	-H <sub>2</sub> O 240, dec 290
819	Cu <sub>3</sub> N Tricopper nitride	204.65	dec 450
820	CuNCS Copper(I) thiocyanate	121.63	mp 1084
821	[Cu(NH <sub>2</sub> CH <sub>2</sub> COO) <sub>2</sub> ] Diglycinatocopper	211.66	mp 130, dec <i>t</i>
822	[Cu(NH <sub>3</sub> ) <sub>4</sub> ](NO <sub>3</sub> ) <sub>2</sub> Tetraamminecopper(II) nitrate	255.68	dec 200
823	[Cu(NH <sub>3</sub> ) <sub>4</sub> ]SO <sub>4</sub> ·(H <sub>2</sub> O) Tetraamminecopper(II) sulfate	227.73	dec hydr 250
824	Cu(NO <sub>3</sub> ) <sub>2</sub> Copper(II) nitrate	187.55	mp 226 ( <i>p</i> ), dec >170
825	Cu(NO <sub>3</sub> ) <sub>2</sub> ·3H <sub>2</sub> O	241.60	mp 114.5; dec 170
826	Cu(NO <sub>3</sub> ) <sub>2</sub> ·6H <sub>2</sub> O	295.64	mp 26, dec < 100
827	CuO Copper(II) oxide	79.55	dec 1026, mp 1447 ( <i>p</i> )
828	Cu <sub>2-x</sub> O Copper(I) oxide	143.09	mp 1240, dec 1800
829	Cu <sub>2</sub> O <sub>3</sub> Copper(III) oxide	175.09	dec 400
830	Cu(OH) <sub>2</sub> Copper(II) hydroxide	97.56	80 → CuO
831	[Cu(OH) <sub>4</sub> ],K Potassium tetrahydroxocuprate(II)	170.67	dec >200
832	[Cu(OH) <sub>4</sub> ],Na <sub>2</sub> Sodium tetrahydroxocuprate(II)	177.55	dec >200
833	Cu <sub>3</sub> P Tricopper phosphide	221.61	mp 1022
834	CuS Copper(II) sulfide	95.61	dec 220
835	Cu <sub>2-x</sub> S (0.06 ≤ <i>x</i> ≤ 0.2) Copper(I) sulfide	159.16	mp 1130
836	Cu <sub>2</sub> S Copper(I) sulfide	159.16	dec ca. 1000
837	CuSO <sub>4</sub> Copper(II) sulfate	159.61	dec 650
838	CuSO <sub>4</sub> ·5H <sub>2</sub> O	249.68	-H <sub>2</sub> O 200–250
839	Cu <sub>3</sub> Sb Tricopper stibide	312.39	mp 687
840	CuSe Copper(II) selenide	142.51	mp 382 dec
841	Cu <sub>2</sub> Se Copper(I) selenide	206.05	mp 1112
842	CuSeO <sub>4</sub> ·(5H <sub>2</sub> O) Copper(II) selenate	206.50	-H <sub>2</sub> O 150
843	Cu <sub>2</sub> Te Copper(I) telluride	254.69	mp 855
<b>844</b>	<b>D<sub>2</sub> Dideuterium</b>	4.028	mp -254.5; bp -249.49
845	DBr Deuterium bromide	81.92	mp -87.63; bp -66.85
846	DCl Deuterium chloride	37.47	mp -114.7; bp -84.75
847	DF Deuterium fluoride	21.01	mp -83.6; bp 18.36
848	DI Deuterium iodide	128.92	mp -51.82; bp -36.2
849	D <sub>2</sub> O Deuterium oxide	20.03	mp 3.813; bp 101.43
850	D <sub>3</sub> PO <sub>4</sub> Deuterium orthophosphate	101.01	mp 49.45
851	D <sub>2</sub> S Deuterium sulfide	36.09	mp -86.01
852	D <sub>2</sub> SO <sub>4</sub> Deuterium sulfate	100.09	mp 14.35
<b>853</b>	<b>Dy Dysprosium</b>	162.50	mp 1409, bp 2587
854	DyBr <sub>3</sub> ·(6H <sub>2</sub> O) Dysprosium(III) bromide	402.21	mp 881, bp 1485
855	Dy(BrO <sub>3</sub> ) <sub>3</sub> ·(9H <sub>2</sub> O) Dysprosium(III) bromate	546.20	mp hydr 75, -H <sub>2</sub> O 140

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
809	yel-grn	r	r	-	-	-	+	+
810	lt-sk-bl, 2.23	r	r	-	-	-	+	+
811	grey-blk, 5.24	i	i	-/+	-	+	-/+	-
812	wh, 4.23	r/+	r	r/+	r	r	+	+
813	lt-bl, 2.93	r/+	r	r/+	r	r	+	+
814	red-brn	+	+	+	+	+	+	+
815	sk-bl, 1.83	r/+	r	r	r	r	+	+
816	dk-grn, 1.88	r	r	-/+	-/+	-/+	-	-
817	wh, 5.62	i	...	-/+	-/+	+	-	+
818	grn, 5.24	d	i	-/+	-/+	r	+	+
819	dk-grn, 5.84	+	...	+	+	+	+	+
820	wh, 2.84	i	i	i/+	i/+	i/+	i	+
821	sk-bl	i	i	+	+	+	-	+
822	dk-bl, 1.91	r	r	+	+	+	-/+	r
823	bl hydr, 1.81	r/+	i	+	+	+	-/+	r
824	wh	r	r	r/+	-	r	+	+
825	bl, 2.32	r	r	r/+	-	r	+	+
826	bl, 2.07	r	r	r/+	-	r	+	+
827	blk, 6.32	-	i	+	+	+	-	-/+
828	red, 6.1	-	i	+	+	+	+	+
829	dk-red	-	...	+	-	-	+	...
830	sk-bl, 3.37	i	...	+	+	+	i/+	+
831	red	+	+	+	+	+	d	+
832	bl	+	+	+	+	+	r	-/+
833	grey	-	...	-	-/+	+	-	-
834	blk, 4.68	i	i	i	-/+	+	i	-
835	blk, 5.5-5.7	i	i	-	-	+	-	+
836	blk-grey, 5.8	i	i	-	-	+	-	+
837	wh, 3.60	r	i	r/+	r	r	+	+
838	bl, 2.28	r	i	r/+	r	r	+	+
839	grey, 8.51	-	...	-/+	-/+	-/+	-	-
840	blk-grn, 5.99	i	i	-/+	-/+	+	-/+	-/+
841	blk, 7.49	i	...	+	+	+	+	+
842	sk-bl hydr, 2.56	r	i	+	+	+	+	+
843	bl, 7.27	i	...	+	+	+	+	+
844	cl gas	i	i	-	-	-	-	-
845	cl gas	r	r	r	r/+	r	+	+
846	cl gas	r	r	r	r	r	+	+
847	cl gas	r	r	r	r	r	+	+
848	cl gas	r	r	r	r/+	r/+	+	+
849	cl lq, 1.107 <sup>20</sup>	∞	∞	r	r	r	r	r
850	wh, 1.91	r	r	r	r	r	+	+
851	cl gas	d	r	d	d/+	d/+	+	+
852	cl lq, 1.8572 <sup>25</sup>	∞	+	r	r	r	+	+
853	wh, 8.559	psv/+	...	+	+	+	-	-
854	wh	r	r	-	-/+	-	+	+
855	yel hydr	r	d	-/+	-	-/+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
856	$Dy_2(C_2O_4)_3 \cdot (10H_2O)$ Dysprosium(III) oxalate	589.05	hydr >550 $\rightarrow$ $Dy_2O_3$
857	$DyCl_3 \cdot (6H_2O)$ Dysprosium(III) chloride	268.86	mp 653, bp 1539
858	$DyF_3$ Dysprosium(III) fluoride	219.49	mp 1157, bp >2200
859	$DyI_3 \cdot (9H_2O)$ Dysprosium(III) iodide	543.22	mp 983, bp 1320
860	$Dy(NO_3)_3 \cdot (5H_2O)$ Dysprosium(III) nitrate	348.51	mp hydr 88.6; dec $t$
861	$Dy_2O_3$ Dysprosium(III) oxide	373.00	mp 2400, bp ca. 4300
862	$Dy(OH)_3$ Dysprosium(III) hydroxide	213.52	800 $\rightarrow$ $Dy_2O_3$
863	$Dy_2S_3$ Dysprosium(III) sulfide	421.20	mp ca. 1490
864	$Dy_2(SO_4)_3 \cdot (8H_2O)$ Dysprosium(III) sulfate	613.19	$-H_2O$ 360, dec ca. 900
<b>865 Er Erbium</b>		167.26	mp 1522, bp 2857
866	$ErBr_3 \cdot (9H_2O)$ Erbium(III) bromide	406.97	mp 950, bp 1460
867	$Er(CH_3COO)_3 \cdot (4H_2O)$ Erbium(III) acetate	344.39	dec hydr 400
868	$Er_2(C_2O_4)_3 \cdot (6H_2O)$ Erbium(III) oxalate	598.57	hydr 575 $\rightarrow$ $Er_2O_3$
869	$ErCl_3$ Erbium(III) chloride	273.62	mp 774, bp 1500
870	$ErCl_3 \cdot 6H_2O$	381.71	mp 153
871	$ErF_3$ Erbium(III) fluoride	224.25	mp 1146, bp 2230
872	$ErI_3 \cdot (6H_2O)$ Erbium(III) iodide	547.98	mp 1015, bp 1280
873	$Er(NO_3)_3 \cdot (5H_2O)$ Erbium(III) nitrate	353.27	$-H_2O$ 130, dec $t$
874	$Er_2O_3$ Erbium(III) oxide	382.52	mp >2200
875	$Er(OH)_3$ Erbium(III) hydroxide	218.28	850 $\rightarrow$ $Er_2O_3$
876	$Er_2S_3$ Erbium(III) sulfide	430.72	mp 1730
877	$Er_2(SO_4)_3$ Erbium(III) sulfate	622.71	dec ca. 900
878	$Er_2(SO_4)_3 \cdot (8H_2O)$	766.83	$-H_2O$ 400
<b>879 Es Einsteinium</b>		252.083	mp 860
<b>880 Eu Europium</b>		151.965	mp 826, bp 1440
881	$EuBr_2$ Europium(II) bromide	311.77	mp 683, bp 1880
882	$EuBr_3 \cdot (6H_2O)$ Europium(III) bromide	391.68	mp 705, dec $t$
883	$Eu_2(C_2O_4)_3 \cdot (10H_2O)$ Europium(III) oxalate	567.98	hydr >550 $\rightarrow$ $Eu_2O_3$
884	$EuCl_2 \cdot (2H_2O)$ Europium(II) chloride	222.87	mp 854, bp 2060
885	$EuCl_3 \cdot (6H_2O)$ Europium(III) chloride	258.32	mp 626 dec
886	$EuF_2$ Europium(II) fluoride	189.96	mp 1416, bp 2400
887	$EuF_3$ Europium(III) fluoride	208.96	mp 1276, bp 2280
888	$EuI_2$ Europium(II) iodide	405.77	mp 580, bp 1775
889	$EuI_3 \cdot (9H_2O)$ Europium(III) iodide	532.68	mp 880, dec $t$
890	$Eu(NO_3)_3 \cdot (6H_2O)$ Europium(III) nitrate	337.98	mp hydr 85, dec hydr $t$
891	$EuO$ Europium(II) oxide	167.96	mp 1700
892	$Eu_2O_3$ Europium(III) oxide	351.93	mp >2200
893	$Eu(OH)_2 \cdot (H_2O)$ Europium(II) hydroxide	185.98	570 $\rightarrow$ $EuO$
894	$Eu(OH)_3$ Europium(III) hydroxide	202.99	820 $\rightarrow$ $Eu_2O_3$
895	$EuS$ Europium(II) sulfide	184.03	mp ca. 2400
896	$EuSO_4$ Europium(II) sulfate	248.03	dec $t$
897	$Eu_2(SO_4)_3$ Europium(III) sulfate	592.12	dec 1600
898	$Eu_2(SO_4)_3 \cdot 8H_2O$	736.24	$-H_2O$ 375
<b>899 F<sub>2</sub> Difluorine</b>		37.996	mp -219.699; bp -188.2
<b>900 Fe Iron</b>		55.847	mp 1539, bp ca. 3200
901	$(FeAl_2)O_4$ Iron-dialuminum tetraoxide	173.81	mp 1440
902	$FeAs$ Iron monoarsenide	130.77	mp 1030

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
856	yel hydr	i	i	-/+	-/+	-/+	i	-
857	wh, 3.617	r	r	r	-	-	+	+
858	wh	i	i	i	-	-	-	-
859	yel-grn	r	r	r	-/+	-/+	+	+
860	yel hydr	r	r	-	-	r	+	+
861	yel-grn, 7.81	-	-	+	+	+	-	-
862	yel	i	i	+	+	+	i	i
863	yel	i/+	...	+	+	+	-	-
864	yel	d	...	-	d	-	+	+
865	wh, 9.062	psv/+	...	+	+	+	-	-
866	viol	r	r	-	-/+	-	+	+
867	wh hydr, 2.11	r	r	-	r	-	+	+
868	red hydr, 2.64	i	i	-/+	i/+	-/+	-	i
869	pink, 4.1	r	r	r	-	-	+	+
870	pink	r	r	r	-	-	+	+
871	pink	i	i	i	-	-	-	-
872	viol	r	r	r	-/+	-/+	+	+
873	red hydr	r	r	-	-	r	+	+
874	pink, 8.64	-/+	-	+	+	+	-	-
875	pink	i	i	+	+	+	i	i
876	yel-brn, 6.05	i/+	...	+	+	+	i	i
877	wh, 3.68	r/d	...	-	r	-	+	+
878	pink, 3.22	r/d	...	-	r	-	+	+
879	...	+	...	+	+	+	+	+
880	wh, 5.244	psv/+	...	+	+	+	-	-
881	wh	r/+	...	-	-/+	-	+	+
882	wh	r	r	r	-/+	-	+	+
883	wh, 4.89	i	i	-/+	-/+	i/+	-	i
884	wh, 4.88	r/+	...	r	-	-	+	+
885	yel, 4.89 (4.47)	r	r	r	-	-	+	+
886	lt-yel, 6.50	i	...	i	-	-	i	-
887	wh	i	i	i	-	-	i	-
888	wh, 5.50	r/+	...	-	-/+	-/+	+	+
889	wh	r	r	r	-/+	-/+	+	+
890	wh hydr	r	r	-	-	r	+	+
891	red, 8.2	+	...	+	+	+	+	+
892	lt-pink, 6.55	-	...	+	+	+	-	-
893	wh hydr, 4.67	r/+	...	+	+	+	r	r
894	wh	i	i	+	+	+	i	i
895	brn-viol	i/+	...	+	+	+	i	-
896	wh, 4.98	i/+	...	-	i	-	i	i
897	wh, 4.95	d	...	-	d	-	+	+
898	lt-pink	d	...	-	d	-	+	+
899	lt-grn gas, 1.696	+	+	+	+	+	+	+
900	grey, 7.864	-	-	+	+/psv	+/psv	-/+	-
901	dk-grn, 4.40	-	-	-/+	-	-/+	-/+	-
902	lt-grey, 7.83	-	i	+	+	+	-	-

No.	Formula and name	$M_r$	Phase transition temperature
903	FeAs <sub>2</sub> Iron diarsenide	205.69	mp 990
904	FeAsO <sub>4</sub> ( $\cdot 2H_2O$ ) Iron(III) arsenate	194.77	$-H_2O$ 200, dec $t$
905	Fe(As)S Iron arsenide-sulfide	162.84	dec 770
906	FeB Iron monoboride	66.66	mp 1650
907	FeBr <sub>2</sub> Iron(II) bromide	215.66	mp 684 ( $p$ ), bp 927
908	FeBr <sub>2</sub> $\cdot 6H_2O$	323.75	dec >100
909	FeBr <sub>3</sub> Iron(III) bromide	295.56	139 $\rightarrow$ Fe
910	FeBr <sub>3</sub> $\cdot 6H_2O$	403.65	mp hydr 27, dec 100
911	Fe <sub>3</sub> C Triiron carbide	179.55	mp 1650 dec ( $\rightarrow$ Fe, C)
912	[Fe <sub>5</sub> C(CO) <sub>15</sub> ] Carbon(15-carbonyl)pentairon	711.40	dec 110
913	[Fe(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ] Bis(cyclopentadienyl)iron	186.04	mp 174, bp 249, dec 400
914	[Fe(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ]NO <sub>3</sub> Bis(cyclopentadienyl)iron(III) nitrate	248.04	dec $t$
915	Fe(CH <sub>3</sub> COO) <sub>2</sub> ( $\cdot 4H_2O$ ) Iron(II) acetate	173.94	dec hydr $t$
916	[Fe(CN) <sub>6</sub> ], Ba <sub>2</sub> ( $\cdot 6H_2O$ ) Barium hexacyanoferrate(II)	486.61	$-H_2O$ >120
917	[Fe <sup>III</sup> (CN) <sub>6</sub> ], Fe Iron(III) hexacyanoferrate(III)	267.80	dec >250
918	[Fe <sup>II</sup> (CN) <sub>6</sub> ], Fe <sub>2</sub> Iron(II) hexacyanoferrate(II)	323.65	dec 500
919	[Fe(CN) <sub>6</sub> ], H <sub>3</sub> Hydrogen hexacyanoferrate(III)	214.98	dec 100
920	[Fe(CN) <sub>6</sub> ], H <sub>4</sub> Hydrogen hexacyanoferrate(II)	215.99	dec 190
921	[Fe(CN) <sub>6</sub> ], K <sub>3</sub> Potassium hexacyanoferrate(III)	329.25	dec 350-400
922	[Fe(CN) <sub>6</sub> ], K <sub>4</sub> Potassium hexacyanoferrate(II)	368.35	mp hydr 70, dec >87
923	[Fe <sup>II</sup> (CN) <sub>6</sub> ], KFe Potassium-iron(II) hexacyanoferrate(II)	306.90	dec >200
924	[Fe(CN) <sub>6</sub> ], Na <sub>4</sub> ( $\cdot 10H_2O$ ) Sodium hexacyanoferrate(II)	303.92	dec hydr >100
925	[Fe(CN) <sub>6</sub> ], Tl <sub>4</sub> ( $\cdot 2H_2O$ ) Thallium(II) hexacyanoferrate(II)	1029.49	dec hydr 150
926	FeCO <sub>3</sub> Iron(II) carbonate	115.86	dec >280-490
927	FeC <sub>2</sub> O <sub>4</sub> ( $\cdot 2H_2O$ ) Iron(II) oxalate	143.87	dec hydr >160
928	[Fe(CO) <sub>5</sub> ] Pentacarbonyliron	195.90	mp -20, bp 103
929	Fe <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> ( $\cdot 5H_2O$ ) Iron(III) oxalate	375.75	dec hydr >100
930	[Fe <sub>2</sub> (CO) <sub>9</sub> ] Nonacarbonyldiiron	363.78	mp 100; 120 $\rightarrow$ [Fe(CO) <sub>5</sub> ]
931	[Fe <sub>3</sub> (CO) <sub>12</sub> ] Dodecacarbonyltriiron	503.66	mp 140 dec ( $\rightarrow$ Fe)
932	[Fe(C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> ], K <sub>3</sub> ( $\cdot 3H_2O$ ) Potassium trioxalatoferate(III)	437.20	$-H_2O$ 100, dec 230
933	[Fe(C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> ], (NH <sub>4</sub> ) <sub>3</sub> ( $\cdot 3H_2O$ ) Ammonium trioxalatoferate(III)	374.02	dec hydr 165
934	[Fe(C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> ], Na <sub>3</sub> ( $\cdot 5.5H_2O$ ) Sodium trioxalatoferate(III)	388.87	dec hydr 300
935	FeCl <sub>2</sub> ( $\cdot 2H_2O$ ) Iron(II) chloride	126.75	mp 674, bp 1023
936	FeCl <sub>2</sub> $\cdot 4H_2O$	198.81	mp 90, dec >120
937	FeCl <sub>3</sub> Iron(III) chloride	162.21	mp 307.5; bp 316 dec
938	FeCl <sub>3</sub> $\cdot 6H_2O$	270.30	mp 37, bp 219
939	Fe(Cl)O Iron chloride-oxide	107.30	>300 $\rightarrow$ Fe <sub>2</sub> O <sub>3</sub> , FeCl <sub>3</sub>
940	Fe(ClO <sub>4</sub> ) <sub>2</sub> ( $\cdot 6H_2O$ ) Iron(II) perchlorate	254.75	dec hydr >100
941	Fe(ClO <sub>4</sub> ) <sub>3</sub> ( $\cdot 10H_2O$ ) Iron(III) perchlorate	354.19	dec hydr >120
942	(FeCu) <sub>2</sub> S <sub>2</sub> Iron-copper disulfide	183.53	mp 1000, dec >1300
943	FeF <sub>2</sub> ( $\cdot 8H_2O$ ) Iron(II) fluoride	93.84	$-H_2O$ 100, mp 1102, bp 1837

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
903	lt-grey, 7.45	-	...	-	-/+	-/+	-	-
904	grn hydr, 3.18	i	i	r	i/r	i/r	i	i
905	wh, 6.07	-	i	+	+	+	-/+	-
906	grey, 7.15	-	...	-	-/+	+	-	-
907	yel-brn, 4.62	r	r	r	-/+	-/+	+	+
908	lt-grn hydr	r	r	r	-/+	-/+	+	+
909	red-blk	r/+	r	r	-/+	-	+	+
910	red	r/+	r	r	-/+	-	+	+
911	grey, 7.66	-	...	+	+	+	-	-
912	blk	-/+	i	+	+	+	-/+	-
913	orange-yel	-/+	r	-	-/+	+	-	-
914	dk-sk-bl	r	r	-	-	-	-	-
915	lt-grn hydr	r	r	r	-	-	+	+
916	yel hydr, 2.67	d	i	-	-	-/+	-	-
917	brn	d	...	-/+	-/+	-/+	-	-
918	wh	i/+	...	-	-/+	-/+	-	-
919	lt-brn	r	r	-/+	-/+	-/+	+	+
920	wh, 1.54	r/+	r	-	-	-/+	+	+
921	dk-red, 1.89	r	i	-/+	-/+	-/+	-	-
922	lt-yel hydr, 1.85	r	i	-	-/+	-/+	-	-
923	bl	i	...	-/+	-	-/+	+	+
924	yel hydr, 1.46	r	i	-	-	-/+	-	-
925	yel hydr, 4.64	d	i	-	-	-/+	-	-
926	wh, 3.8	i	...	+	+	+	-	-
927	lt-yel hydr, 2.28	d	...	-	-/+	-/+	+	+
928	lt-yel lq, 1.457 <sup>20</sup>	i/+	r	-	-/+	-/+	+	-
929	lt-yel hydr, 2.28	r	i	r/+	-/+	r/+	+	+
930	yel, 2.09	-/+	d	-	-/+	-/+	+	-
931	dk-grn-blk	-/+	d/+	-	-/+	-/+	-	-
932	grn hydr, 2.13	r	i	-/+	-/+	-/+	+	+
933	grn hydr, 1.78	r	i	-/+	-/+	-/+	+	+
934	grn hydr, 1.97	r	r	-/+	-/+	-/+	+	+
935	wh, 3.16	r	r	r	-	-	+	+
936	grn-sk-bl, 1.93	r	r	r	-	-	+	+
937	lt-grn, 2.90	r/+	r	r	-	-	+	+
938	dk-yel	r/+	r	r	-	-	+	+
939	orange-red, 3.1	-/+	-	+	+	+	-/+	-
940	lt-grn hydr	r	r	-	-	-/+	+	+
941	pink hydr	r/+	r	-	-	r	+	+
942	yel, 4.2	i	i	-/+	-/+	-/+	-/+	-
943	wh, 4.09(2.09)	d	i	d/r	d/+	d/r	-	-

No.	Formula and name	$M_r$	Phase transition temperature
944	FeF <sub>3</sub> Iron(III) fluoride	112.84	mp 1027, bp 1327
945	FeF <sub>3</sub> ·4.5H <sub>2</sub> O	193.91	dec >100
946	(Fe <sup>II</sup> Fe <sup>III</sup> )F <sub>5</sub> Iron(II)-iron(III) fluoride	206.68	dec 1200
947	(Fe <sup>II</sup> Fe <sup>III</sup> )O <sub>4</sub> Iron(II)-diiron(III) oxide	231.54	mp 1538 dec
948	[Fe(H <sub>2</sub> O) <sub>4</sub> Cl <sub>2</sub> ]Cl Tetraaquadichloroiron(II) chloride	234.27	mp 37, bp >280
949	[Fe(H <sub>2</sub> O) <sub>3</sub> (NCS) <sub>3</sub> ] Triaquatris(thiocyanato)iron	284.14	dec <i>t</i>
950	FeI <sub>2</sub> Iron(II) iodide	309.66	mp 587, bp 827
951	FeI <sub>2</sub> ·4H <sub>2</sub> O	381.72	mp 90, dec >100
952	Fe <sub>2+x</sub> N (0 < x ≤ 0.5) Diiron nitride	125.70	350 → Fe <sub>3</sub> N
953	Fe <sub>3</sub> N Triiron nitride	181.55	420 → Fe <sub>4</sub> N
954	Fe <sub>4</sub> N Tetrairon nitride	237.40	640 → Fe
955	Fe(NCS) <sub>2</sub> (·3H <sub>2</sub> O) Iron(II) thiocyanate	172.02	dec hydr <i>t</i>
956	FeNH <sub>4</sub> (SO <sub>4</sub> ) <sub>2</sub> Iron(II)-ammonium sulfate	266.01	480 → Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>
957	FeNH <sub>4</sub> (SO <sub>4</sub> ) <sub>2</sub> ·12H <sub>2</sub> O	482.19	mp 40, -H <sub>2</sub> O 230
958	Fe(NH <sub>4</sub> ) <sub>2</sub> (SO <sub>4</sub> ) <sub>2</sub> (·6H <sub>2</sub> O) Iron(II)-diammonium sulfate	284.05	dec hydr 100–110
959	Fe(NO <sub>3</sub> ) <sub>2</sub> (·6H <sub>2</sub> O) Iron(II) nitrate	179.86	mp hydr 60.5 dec
960	Fe(NO <sub>3</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Iron(III) nitrate	241.86	mp hydr 47.2; bp hydr 125.1
961	Fe(NO <sub>3</sub> ) <sub>3</sub> ·9H <sub>2</sub> O	403.99	mp 50.1; -H <sub>2</sub> O >150
962	[Fe(NO) <sub>4</sub> ] Tetranitrosyliron	175.87	dec >100
963	[Fe(NO <sup>+</sup> )(CN) <sub>5</sub> ] <sub>1</sub> Na <sub>2</sub> (·2H <sub>2</sub> O) Sodium nitrosylium-pentacyanoferrate(II)	261.92	mp 687
964	(Fe <sub>2</sub> Ni) <sub>4</sub> Diiron-nickel tetraoxide	234.38	mp 1660 dec
965	Fe <sub>1-x</sub> O Iron(II) oxide	71.85	mp 1368
966	Fe <sub>2</sub> O <sub>3</sub> Iron(III) oxide	159.69	1390 → (Fe <sup>II</sup> Fe <sup>III</sup> )O <sub>4</sub>
967	Fe <sub>2</sub> O <sub>3</sub> · <i>n</i> H <sub>2</sub> O	—	>200 → FeO(OH)
968	Fe <sub>2.67</sub> O <sub>4</sub> 2.67-Iron tetraoxide	213.11	1200 → Fe <sub>2</sub> O <sub>3</sub>
969	Fe(OH) <sub>2</sub> Iron(II) hydroxide	89.86	dec >150
970	FeO(OH) Iron metahydroxide	88.85	500 → Fe <sub>2</sub> O <sub>3</sub>
971	FeP Iron monophosphide	86.82	dec >1150
972	Fe <sub>2</sub> P Diiron phosphide	142.67	mp 1365
973	Fe <sub>3</sub> P Triiron phosphide	198.52	mp 1166 dec
974	[Fe(PF <sub>3</sub> ) <sub>5</sub> ] Pentakis(trifluorophosphorus)iron	495.69	mp 45 ( <i>p</i> ), subl >20
975	FePO <sub>4</sub> (·2H <sub>2</sub> O) Iron(II) orthophosphate	150.82	dec hydr >250
976	Fe <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> (·8H <sub>2</sub> O) Iron(II) orthophosphate	357.48	dec hydr 100–180
977	Fe <sub>1-x</sub> S (0.1 ≤ x ≤ 0.2) Iron(II) sulfide	87.91	mp 1195
978	α-Fe(S <sub>2</sub> ) Iron(II) disulfide(2-)	119.98	450 → β-Fe(S <sub>2</sub> )
979	β-Fe(S <sub>2</sub> )	119.98	dec >1170
980	FeSO <sub>4</sub> (·5H <sub>2</sub> O) Iron(II) sulfate	151.91	dec ca. 350
981	FeSO <sub>4</sub> ·7H <sub>2</sub> O	278.01	mp 64, -H <sub>2</sub> O 300
982	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> (·9H <sub>2</sub> O) Iron(III) sulfate	399.88	dec >600
983	FeSi Iron monosilicide	83.93	mp 1405
984	FeSiO <sub>3</sub> Iron(II) metasilicate	131.93	mp 1146
985	Fe <sub>2</sub> SiO <sub>4</sub> Iron(II) orthosilicate	203.78	mp 1217
986	FeWO <sub>4</sub> Iron(II) wolframate	303.69	mp >1700
987	(Fe <sub>2</sub> Zn) <sub>4</sub> Diiron-zinc tetraoxide	241.08	mp 1590
988	<b>Fm</b> Fermium	257.095	...



No.	Formula and name	$M_r$	Phase transition temperature
<b>989</b>	<b>Fr Francium</b>	223.020	mp 21, bp 660
990	FrClO <sub>4</sub> Francium perchlorate	322.47	dec >800
<b>991</b>	<b>Ga Gallium</b>	69.723	mp 29.78; bp 2403
992	GaAs Gallium monoarsenide	144.65	mp 1238
993	GaBr <sub>3</sub> Gallium(III) bromide	309.44	mp 121.5; bp 279
994	[Ga <sup>III</sup> Br <sub>4</sub> ], Ga Gallium(III) tetrabromogallate(III)	459.06	mp 165
995	GaCl <sub>3</sub> Gallium(III) chloride	176.08	mp 77.8; bp 201.3
996	[Ga <sup>III</sup> Cl <sub>4</sub> ], Ga Gallium(III) tetrachlorogallate(III)	281.26	mp 176, bp 535
997	Ga(ClO <sub>4</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Gallium(III) perchlorate	368.07	dec 175
998	GaF <sub>3</sub> Gallium(III) fluoride	126.72	subl >800, bp 950
999	GaF <sub>3</sub> ·3H <sub>2</sub> O	180.76	dec >140
1000	GaI <sub>3</sub> (·H <sub>2</sub> O) Gallium(III) iodide	450.44	mp 212, bp 346
1001	[Ga <sup>III</sup> I <sub>4</sub> ], Ga Gallium(III) tetraiodogallate(III)	647.06	mp 221, bp 580
1002	GaN Gallium mononitride	83.73	subl >800, mp 1500
1003	GaNH <sub>4</sub> (SO <sub>4</sub> ) <sub>2</sub> (·12H <sub>2</sub> O) Gallium(III)-ammonium sulfate	279.89	dec hydr >250
1004	[GaN <sub>2</sub> ], Li <sub>3</sub> Lithium dinitridogallate(III)	118.56	dec 800
1005	Ga(NO <sub>3</sub> ) <sub>3</sub> (·8H <sub>2</sub> O) Gallium(III) nitrate	255.74	-H <sub>2</sub> O >40, dec 110–200
1006	Ga <sub>2</sub> O <sub>3</sub> Gallium(III) oxide	187.44	mp ca. 1725
1007	Ga(OH) <sub>3</sub> Gallium(III) hydroxide	120.74	400 → GaO(OH)
1008	GaO(OH) Gallium metahydroxide	102.73	>540 → Ga <sub>2</sub> O <sub>3</sub>
1009	GaP Gallium monophosphide	100.70	mp 1465
1010	GaPO <sub>4</sub> (·2H <sub>2</sub> O) Gallium(III) orthophosphate	164.69	mp 1670
1011	Ga <sub>2</sub> S <sub>3</sub> Gallium(III) sulfide	235.64	mp ca. 1110
1012	Ga <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> (·18H <sub>2</sub> O) Gallium(III) sulfate	427.63	dec hydr >520
1013	GaSb Galliumantimony	191.47	mp 712
1014	Ga <sub>2</sub> Se <sub>3</sub> Gallium(III) selenide	376.33	mp 1020
1015	Ga <sub>2</sub> Te <sub>3</sub> Gallium(III) telluride	522.25	mp 790
<b>1016</b>	<b>Gd Gadolinium</b>	157.25	mp 1312, bp 3272
1017	GdBr <sub>3</sub> (·6H <sub>2</sub> O) Gadolinium(III) bromide	396.96	mp 778, bp 1490
1018	Gd <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> (·10H <sub>2</sub> O) Gadolinium(III) oxalate	578.55	hydr >500 → Gd <sub>2</sub> O <sub>3</sub>
1019	GdCl <sub>3</sub> (·6H <sub>2</sub> O) Gadolinium(III) chloride	263.61	mp 609, bp 1580
1020	GdF <sub>3</sub> Gadolinium(III) fluoride	214.24	mp 1232, bp 2280
1021	GdI <sub>3</sub> Gadolinium(III) iodide	537.96	mp 929, bp 1340
1022	Gd(NO <sub>3</sub> ) <sub>3</sub> (·5H <sub>2</sub> O) Gadolinium(III) nitrate	343.26	mp hydr 92, t → Gd <sub>2</sub> O <sub>3</sub>
1023	Gd <sub>2</sub> O <sub>3</sub> Gadolinium(III) oxide	362.50	mp 2350
1024	Gd(OH) <sub>3</sub> Gadolinium(III) hydroxide	208.27	920 → Gd <sub>2</sub> O <sub>3</sub>
1025	Gd <sub>2</sub> S <sub>3</sub> Gadolinium(III) sulfide	410.70	mp 1885
1026	Gd <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> (·8H <sub>2</sub> O) Gadolinium(III) sulfate	602.69	-H <sub>2</sub> O 400, dec >650
1027	Gd <sub>2</sub> (SeO <sub>4</sub> ) <sub>3</sub> (·8H <sub>2</sub> O) Gadolinium(III) selenate	743.37	-H <sub>2</sub> O 130
<b>1028</b>	<b>Ge Germanium</b>	72.61	mp 937, bp ca. 2850
1029	GeBr <sub>2</sub> Germanium(II) bromide	232.42	subl 385, mp 143 (p)
1030	GeBr <sub>4</sub> Germanium(IV) bromide	392.23	mp 26.1; bp 186.8
1031	Ge(CH <sub>3</sub> COO) <sub>4</sub> Germanium(IV) acetate	308.79	mp 156
1032	Ge(CN) <sub>4</sub> Germanium(IV) cyanide	176.68	dec 80
1033	GeCl <sub>2</sub> Germanium(II) chloride	143.52	dec 75–460
1034	GeCl <sub>4</sub> Germanium(IV) chloride	214.42	mp -49.5; bp 83.1

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
989	wh, 2.3–2.5	+	+	+	+	+	+	+
990	wh	i	...	–	–	–	i	–
991	wh, 5.904	psv/+	...	+	+	+	+	+
992	dk-grey, 5.35	–/+	i	+	+	+	+	...
993	wh, 3.69	+	...	–	–/+	–	+	+
994	wh, 3.47	+	...	+	+	+	+	+
995	wh, 2.47	r/+	r	+	–/+	–	+	+
996	wh, 2.42	+	...	+	+	+	+	+
997	wh	r	r	–	–	–	+	+
998	wh, 4.47	i/d	...	–	–/+	–	+	+
999	wh	i/d	...	d/r	d/r	d/r	+	+
1000	yel, 4.15	+	...	+	+/-	+/-	+	+
1001	yel	+	...	+	+	+	+	+
1002	yel-brn, 6.10	–	...	–	–	–	–/+	–
1003	wh hydr, 1.78	r	...	–	–	–	+	+
1004	lt grey	+	...	+	+	+	+	+
1005	wh	r	r	–	–	–	+	+
1006	wh, 6.16	–	...	–/+	–/+	–/+	+	–
1007	wh	i	...	+	+	+	+	i/+
1008	wh	i	...	+	+	+	+	i/+
1009	yel-orange, 2.48	–	...	–	–/+	–/+	–/+	...
1010	wh, 3.26	i	...	i	r	r/–	i	–
1011	yel, 3.75	+	...	+	+	+	+	+
1012	wh hydr	r	r	–	r	–	+	+
1013	lt-grey, 5.6	–	i	–/+	+	–/+	–/+	–
1014	brn, 4.92	i/+	...	+	–/+	–/+	–/+	–
1015	blk, 5.57	i/+	...	+	–/+	–/+	–/+	–
1016	wh, 7.886	psv/+	...	+	+	+	–	–
1017	wh hydr, 2.84	r	r	–	–/+	–	+	+
1018	wh hydr	i	i	–/+	i/+	–/+	i	i
1019	wh, 4.52(2.42)	r	r	r	–	–	+	+
1020	wh	i	i	d/r	d/r	d/r	i	i
1021	lt-yel	r	r	–	–/+	–/+	+	+
1022	wh hydr, 2.41	r	r	–	–	r	+	+
1023	wh, 7.41	–	...	+	+	+	–	–
1024	wh	i	...	+	+	+	i	i
1025	yel, 3.8	i/+	...	+	+	+	–/+	–
1026	wh, 4.14(3.01)	d	...	–	d/r	–	+	+
1027	wh hydr, 3.31	r	...	–	–	–	+	+
1028	lt-grey, 5.350	–	...	–	–/+	–/+	–	–
1029	wh	+	r	+	+	+	+	+
1030	wh, 3.13	+	r	+	+/-	+	+	+
1031	wh	+	d	+	+	+	+	+
1032	wh	+	r	+	+	+	+	+
1033	wh	+	i	+	+	+	+	+
1034	cl lq, 1.880 <sup>20</sup>	+	r	+	+/-	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1035	GeF <sub>2</sub> Germanium(II) fluoride	110.61	mp 110, dec >160
1036	GeF <sub>4</sub> Germanium(IV) fluoride	148.60	mp -15 (p), subl -36.5
1037	GeF <sub>4</sub> ·3H <sub>2</sub> O	202.65	dec 150
1038	[GeF <sub>6</sub> ] <sup>-2</sup> , K <sub>2</sub> Potassium hexafluorogermanate(IV)	264.79	mp 730, bp ca. 835
1039	GeH <sub>4</sub> Monogermane	76.64	mp -165.8; bp -88.5
1040	Ge <sub>2</sub> H <sub>6</sub> Digermane	151.27	mp -109, bp 30
1041	Ge <sub>3</sub> H <sub>8</sub> Trigermane	225.89	mp -105.6; bp 110.7
1042	Ge <sub>4</sub> H <sub>10</sub> Tetragermane	300.52	bp 177
1043	Ge <sub>5</sub> H <sub>12</sub> Pentagermane	375.15	bp 235
1044	GeI <sub>2</sub> Germanium(II) iodide	326.42	mp 460 (p), dec 440
1045	GeI <sub>4</sub> Germanium(IV) iodide	580.23	mp 146, bp 348
1046	Ge <sub>3</sub> N <sub>4</sub> Trigermanium tetranitride	273.86	dec 450-1400
1047	α-GeO <sub>2</sub> Germanium(IV) oxide	104.61	1033 → β-GeO <sub>2</sub>
1048	β-GeO <sub>2</sub> (·nH <sub>2</sub> O)	104.61	-H <sub>2</sub> O 380, mp 1116
1049	GeS Germanium(II) sulfide	104.68	mp 655
1050	GeS <sub>2</sub> Germanium(IV) sulfide	136.74	mp 825
1051	GeSe Germanium(II) selenide	151.57	mp 667
1052	GeSe <sub>2</sub> Germanium(IV) selenide	230.53	mp 707 dec
1053	GeTe Germanium(II) telluride	200.21	mp 725
<b>1054</b>	<b>H<sub>2</sub> Dihydrogen</b>	2.016	mp -259.19; bp -252.87
1055	H <sub>3</sub> AsO <sub>4</sub> (·0.5H <sub>2</sub> O) Arsenic acid	141.94	mp hydr 35.5; -H <sub>2</sub> O 120
1056	HBO <sub>2</sub> Metaboric acid	43.82	mp 236
1057	HBr Hydrogen bromide	80.91	mp -86.91; bp -66.77
1058	HCN Hydrogen cyanide	27.03	mp -13.3; bp 25.65
1059	H <sub>2</sub> CN <sub>2</sub> Hydrogen cyanamide	42.04	mp 43
1060	H <sub>2</sub> C <sub>2</sub> O <sub>4</sub> (·2H <sub>2</sub> O) Oxalic acid	90.03	mp hydr 101.5; mp 189.5
1061	HCOOH Formic acid	46.03	mp 8.3; bp 100.8
1062	HCl Hydrogen chloride	36.46	mp -114.0; bp -85.08
1063	HClO <sub>4</sub> (·H <sub>2</sub> O) Perchloric acid	100.46	mp -101, bp 120.5
1064	HD Deuteriohydrogen	3.02	mp -256.5; bp -251.02
1065	HF Hydrogen fluoride	20.01	mp -83.36; bp 19.52
1066	Hydrogen iodide	127.91	mp -50.9; bp -35.4
1067	HIO <sub>3</sub> Iodic acid	175.91	mp 110, 220 → I <sub>2</sub> O <sub>5</sub>
1068	HIO <sub>4</sub> Metaperiodic acid	191.91	subl 110
1069	H <sub>4</sub> I <sub>2</sub> O <sub>9</sub> Hydrogen nonaoxodiiiodate(VII)	401.83	>100 → HIO <sub>4</sub>
1070	H <sub>5</sub> IO <sub>6</sub> Orthoperiodic acid	227.94	mp 122 dec
1071	HMnO <sub>4</sub> (·2H <sub>2</sub> O) Permanganic acid	119.94	dec 3, dec hydr 20
1072	HN <sub>3</sub> Hydrogen azide	43.03	mp -80, bp 35.7
1073	HNCO Hydrogen cyanate-N	43.03	mp -80, bp 23.6
1074	HNCS Hydrogen thiocyanate	59.09	mp 5 dec
1075	HNO <sub>3</sub> Nitric acid	63.01	mp -41.6; bp 82.6 dec
1076	H <sub>2</sub> N <sub>2</sub> O <sub>2</sub> Hyponitrous acid	62.03	dec >-6
1077	H <sub>2</sub> O Water	18.02	mp 0.00; bp 100.00
1078	H <sub>2</sub> O <sub>2</sub> Hydrogen peroxide	34.01	mp -0.43; dec 150
1079	HO <sup>-</sup> F Hydrogen fluorooxygenate(0)	36.01	mp -117, dec >20
1080	H(PH <sub>2</sub> O <sub>2</sub> ) Phosphinic acid	66.00	mp 26.5; dec 140
1081	H <sub>2</sub> (PHO <sub>3</sub> ) Phosphonic acid	82.00	mp 74, dec 200

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1035	wh	r/+	...	-/+	-/+	-/+	+	...
1036	cl gas, 6.65	+	...	+	+/-	+	+	...
1037	wh	i/+	...	+	+	+	+	-
1038	wh, 3.32	d/r	i	+	+	+	+	...
1039	cl gas, 3.420	+	r	+	+	+	+	+
1040	cl lq, 1.98-109	+	...	+	+	+	+	+
1041	cl lq, 2.2-106	-	...	+	-/+	-/+	-/+	...
1042	cl lq	-	...	+	-/+	-/+	-/+	...
1043	cl lq	-	...	+	-/+	-/+	-/+	-
1044	dk-yel, 5.37	r/+	...	+	+	+	+	+
1045	dk-orange, 4.32	+	...	+/-	+/-	+	+	+
1046	lt-brn, 5.25	-	...	-	-	-	-	-
1047	wh, 6.24	-	...	-	-	-	-	-
1048	wh, 4.70	-/+	...	+	+	+	+	+
1049	grey-blk, 4.01	i	...	+	+	+	+	-
1050	wh, 2.94	+	i	+	+/-	+/-	+	+
1051	brn-yel, 5.31	i	i	+	-/+	-/+	+	-
1052	orange, 4.56	-	...	-/+	-/+	-/+	-/+	-/+
1053	grey-brn	i/+	...	-/+	-/+	-/+	-/+	-
1054	cl gas, 0.08988	i	d	i	i	i	i	i
1055	wh hydr, 2.25	r/+	r	r	r	r	+	-/+
1056	wh, 1.79	+	...	+	+	+	+	+
1057	cl gas, 3.6445	r	r	r	r/+	r	+	+
1058	cl lq, 0.69922	∞/+	∞	r/+	r/+	r/+	+	+
1059	wh	r/+	r	-	-/+	-/+	+	+
1060	wh	r	r	r/+	r/+	r/+	+	+
1061	cl lq, 1.22020	∞	∞	r	r/+	r/+	+	+
1062	cl gas, 1.6391	r	r	r	r	r/+	+	+
1063	cl lq, 1.66420	∞	r	r	r	r	+	+
1064	cl gas	i	d	i	i	i	i	i
1065	cl lq, 0.9913	r	r	r	r	r/+	+	+
1066	cl gas, 5.7891	r	r	r	r/+	r/+	+	+
1067	wh, 4.63	r	r	r/+	r	r	+	+
1068	wh	r	...	r	r	r	+	+
1069	wh	r/+	r	r/+	r/+	r/+	+	+
1070	wh	r	r	r	r	r	+	+
1071	viol	r/+	r	+	-/+	-/+	+	+
1072	cl lq, 1.1320	∞	∞	r	r	r/+	+	+
1073	cl lq, 1.14020	i/+	r	...	-/+	-/+	+	+
1074	wh	r/+	d	-/+	-/+	-/+	+	+
1075	cl lq, 1.50325	∞	+	r/+	r/+	r	+	+
1076	wh	r/+	r	-	-/+	-/+	+	+
1077	cl lq, 1.004	∞	∞	r	r	r	r	r
1078	cl lq, 1.44820	∞	∞	r	r/+	r/+	+	+
1079	cl lq	+	+	+	+	+	+	+
1080	wh, 1.49	r	r	r	r/+	r/+	+	+
1081	wh, 1.65	r	r	r	r/+	r/+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1082	$H_2(P_2H_2O_5)$ Hydrogen dihydropentaoxodiphosphate <sup>(vi)</sup>	145.98	mp 38, dec 130
1083	$H(PhO_2F)$ Fluorophosphonic acid	83.99	mp -94, bp 112.4
1084	$HPO_3$ Metaphosphoric acid	79.98	mp ca. 40 (polymer)
1085	$H_3PO_4$ Orthophosphoric acid	97.99	mp 42.35; dec 150
1086	$H_4P_2^{IV}O_6$ Hydrogen hexaoxodiphosphate <sup>(iv)</sup>	161.97	mp 73 dec
1087	$H_4P_2O_7$ Diphosphoric acid	177.97	mp 61, dec 300
1088	$HPO_2F_2$ Difluorometa phosphoric acid	101.98	mp -96.5; dec >100
1089	$H_2PO_3F$ Fluoroorthophosphoric acid	99.99	mp -30, bp 185 dec
1090	$HPO_2(NH_2)_2$ Diaminometaphosphoric acid	96.03	mp 100 dec
1091	$H_2PO_3(NH_2)$ Aminoorthophosphoric acid	97.01	100 $\rightarrow$ $NH_4PO_3$
1092	$H_7Re_2O_9$ Hydrogen nonaoxodirhenate <sup>(vii)</sup>	520.44	160 $\rightarrow$ $Re_2O_7$
1093	$H_2S$ Hydrogen sulfide	34.08	mp -85.54; bp -60.35
1094	$H_2(S_2)$ Disulfane	66.15	mp -89.6; bp 70.7
1095	$H_2(S_3)$ Trisulfane	98.21	mp -54, dec 69
1096	$H_2(S_4)$ Tetrasulfane	130.28	soft >-85
1097	$H_2(S_5)$ Pentasulfane	162.35	mp -50
1098	$H_2SO_4$ Sulfuric acid	98.08	mp 10.4; bp 296 dec
1099	$H_2SO_4 \cdot H_2O$	116.09	mp 8.48; bp 290
1100	$H_2SO_4 \cdot 2H_2O$	134.11	mp -39.5; bp 167
1101	$H_2S_2O_7$ Disulfuric acid	178.14	mp 35.22; dec <i>t</i>
1102	$HSO_3Cl$ Chlorosulfonic acid	116.52	mp -80.5; bp 152 dec
1103	$HSO_3(NH_2)$ Aminosulfonic acid	97.09	mp 207 dec
1104	$H_2SO_3(O_2)$ Peroxosulfuric acid	114.08	mp 45
1105	$H_2S_2O_6(O_2)$ Peroxodisulfuric acid	194.14	mp 65 dec
1106	$H_2SO_3S$ Thiosulfuric acid	114.15	dec -78
1107	$H_2Se$ Hydrogen selenide	80.98	mp -65.72; bp -41.5
1108	$H_2SeO_3$ Selenious acid	128.97	mp 66.5 dec 70
1109	$H_2SeO_4 (\cdot H_2O)$ Selenic acid	144.97	mp hydr 26, mp 62.4
1110	$HTcO_4$ Technetic acid	162.91	>160 $\rightarrow$ $Tc_2O_7$
1111	$H_2Te$ Hydrogen telluride	129.62	mp -51, bp -1.8 dec
1112	$H_2TeO_3$ Tellurous acid	177.61	>40 $\rightarrow$ $TeO_2$
1113	$H_6TeO_6$ Orthotelluric acid	229.64	mp 136, 220 $\rightarrow$ $TeO_3$
<b>1114 He Helium</b>		4.003	mp -271 ( <i>p</i> ), bp -269
<b>1115 Hf Hafnium</b>		178.49	mp 2230, bp ca. 4620
1116	$HfB_2$ Hafnium diboride	200.11	mp 3250
1117	$HfBr_4$ Hafnium <sup>(iv)</sup> bromide	498.11	subl 332, mp 420 ( <i>p</i> )
1118	$HfC_{0.94}$ Hafnium 0.94-carbide	189.78	mp 3890
1119	$[Hf(C_5H_5)_2Cl_2]$ Bis(cyclopentadienyl)dichlorohafnium	379.59	mp 231.5
1120	$HfCl_4$ Hafnium <sup>(iv)</sup> chloride	320.30	subl 317, mp 435 ( <i>p</i> )
1121	$HfCl_2O (\cdot 8H_2O)$ Hafnium dichloride-oxide	265.40	$-H_2O$ 65, dec >300
1122	$HfF_4 (\cdot 3H_2O)$ Hafnium <sup>(iv)</sup> fluoride	254.48	subl 974
1123	$[HfF_6] \cdot K_2$ Potassium hexafluorohafnate <sup>(iv)</sup>	370.67	mp 608 dec
1124	$[HfF_6] \cdot (NH_4)_3$ Ammonium heptafluorohafnate <sup>(iv)</sup>	365.59	dec >240
1125	$[Hf(H_2O)_4(NO_3)_2(OH)_2]$ Tetraaquadinitratodihydroxohafnium	408.57	640 $\rightarrow$ $HfO_2$
1126	$[Hf(H_2O)_4(SO_4)_2]$ Tetraaquadisulfatohafnium	442.67	dec 800

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1082	wh	+	...	+	+	+	+	+
1083	cl lq, 1.58 <sup>25</sup>	r/+	r	r	r/+	r/+	+	+
1084	wh, 2.2–2.5	r/+	r	r/+	r/+	r/+	+	+
1085	wh, 1.83	r	r	r	r	r	+	+
1086	wh	r/+	...	+	+	+	+	+
1087	wh	r/+	r	r	r	r	+	+
1088	cl lq, 1.583 <sup>25</sup>	+	...	+	+	+	+	+
1089	cl lq, 1.818 <sup>25</sup>	+	...	+	+	+	+	+
1090	wh	r/+	...	+	+	+	+	+
1091	wh	+	...	+	+	+	+	+
1092	lt-yel, 4.87	+	...	–	–	–	+	+
1093	cl gas, 1.539	d	r	d	d/+	d/+	+	+
1094	lt-yel lq, 1.334 <sup>20</sup>	+	r	–	–/+	–/+	+	+
1095	lt-yel lq, 1.491 <sup>20</sup>	+	r	–	–/+	–/+	+	+
1096	yel lq, 1.582 <sup>20</sup>	+	r	–	–/+	–/+	+	+
1097	grn-yel lq, 1.644 <sup>20</sup>	+	r	–	–/+	–/+	+	+
1098	cl lq, 1.834 <sup>20</sup>	∞	+	r	r	r	+	+
1099	cl lq, 1.788 <sup>20</sup>	∞	+	r	r	r	+	+
1100	cl lq, 1.650 <sup>20</sup>	∞	+	r	r	r	+	+
1101	wh, 1.9	+	+	+	+	+	+	+
1102	cl lq, 1.79 <sup>20</sup>	+	+	+	+	+	+	+
1103	wh, 2.13	r/+	i	r/+	r/+	r/+	+	+
1104	wh	+	r	+	+	+	+	+
1105	wh	+	r	+	+	+	+	+
1106	cl lq	+	+	+	+	+	+	+
1107	cl gas, 3.6643	r	...	r	r/+	r/+	+	+
1108	wh, 3.01	r	r	r	r	r	+	+
1109	wh, 2.95(2.63)	r	+	r/+	r	r	+	+
1110	red	r	...	r	r	r	+	+
1111	cl gas, 5.81	+	r	+	+	+	+	+
1112	wh, 3.05	d	i	d/+	d/+	d/+	+	+
1113	wh, 3.07	r	i	r	r	r	+	+
1114	cl gas, 0.17847	i	i	–	–	–	–	–
1115	wh, 13.29	–	–	–	–/+	–	–	–
1116	grey	–	i	–	–	–	–	–
1117	wh, 4.90	+	...	+	+	+	+	+
1118	grey, 12.68	–	...	–	–/+	–	–	–
1119	wh	–/+	r	–	–/+	+	–	–
1120	wh	+	r	+	+	+	+	+
1121	wh	r/+	i	+	+	+	+	+
1122	wh, 7.13	i/+	...	–	–	–	i	i
1123	wh	d	...	–	–	–	–/+	–
1124	wh, 2.80	r	...	–	–	–	–/+	–
1125	wh	+	r	+	+	+	+	+
1126	wh	r	...	–	+	–	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1127	HfI <sub>4</sub> Hafnium(IV) iodide	686.11	subl 392, mp 455 (p)
1128	HfN Hafnium mononitride	192.50	mp >3000
1129	HfO <sub>2</sub> Hafnium(IV) oxide	210.49	mp 2780, bp ca. 5400
1130	HfO <sub>2</sub> · <i>n</i> H <sub>2</sub> O	—	140 → HfO(OH) <sub>2</sub>
1131	HfO(OH) <sub>2</sub> Hafnium oxide-dihydroxide	228.50	1000 → HfO <sub>2</sub>
<b>1132 Hg Mercury</b>		200.59	mp -38.862; bp 356.66
1133	Hg <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub> Mercury(II) arsenate	879.61	dec >300
1134	HgBr <sub>2</sub> Mercury(II) bromide	360.40	mp 238.1; bp 319
1135	Hg <sub>2</sub> Br <sub>2</sub> Dimercury dibromide	560.99	subl ca. 390
1136	Hg(BrO <sub>3</sub> ) <sub>2</sub> ·(2H <sub>2</sub> O) Mercury(II) bromate	456.39	dec hydr >130
1137	Hg <sub>2</sub> (BrO <sub>3</sub> ) <sub>2</sub> Dimercury dibromate	656.98	dec <i>t</i>
1138	Hg <sub>2</sub> C <sub>2</sub> Dimercury acetylide	425.20	dec 100
1139	Hg(CH <sub>3</sub> COO) <sub>2</sub> Mercury(II) acetate	318.68	mp ca. 180 dec
1140	Hg(CN) <sub>2</sub> Mercury(II) cyanide	252.63	dec 320
1141	Hg(CNO) <sub>2</sub> ·(0.5H <sub>2</sub> O) Mercury(II) fulminate	284.62	dec hydr <i>t</i>
1142	Hg <sub>2</sub> CO <sub>3</sub> Dimercury carbonate	461.19	130 → Hg, HgO
1143	HgCl <sub>2</sub> Mercury(II) chloride	271.50	mp 280, bp 301.8
1144	Hg <sub>2</sub> Cl <sub>2</sub> Dimercury dichloride	472.09	dec ca. 400
1145	Hg(ClO <sub>3</sub> ) <sub>2</sub> Mercury(II) chlorate	367.49	dec ca. 300
1146	Hg <sub>2</sub> (ClO <sub>3</sub> ) <sub>2</sub> Dimercury dichlorate	568.08	dec 250
1147	HgF <sub>2</sub> ·(2H <sub>2</sub> O) Mercury(II) fluoride	238.59	mp 645, bp 647
1148	Hg <sub>2</sub> F <sub>2</sub> Dimercury difluoride	439.18	mp 570
1149	α-HgI <sub>2</sub> Mercury(II) iodide	454.40	131 → β-HgI <sub>2</sub>
1150	β-HgI <sub>2</sub>	454.40	mp 256, bp 354
1151	Hg <sub>2</sub> I <sub>2</sub> Dimercury diiodide	654.99	subl 140, mp 290
1152	[HgI <sub>4</sub> ] <sub>2</sub> Ag <sub>2</sub> Silver(II) tetraiodomercurate(II)	923.94	dec >158
1153	[HgI <sub>4</sub> ] <sub>2</sub> Ba·(5H <sub>2</sub> O) Barium tetraiodomercurate(II)	845.53	dec hydr <i>t</i>
1154	[HgI <sub>3</sub> ] <sub>2</sub> K·(H <sub>2</sub> O) Potassium triiodomercurate(II)	620.40	-H <sub>2</sub> O 60, mp 105
1155	[HgI <sub>4</sub> ] <sub>2</sub> K <sub>2</sub> ·(2H <sub>2</sub> O) Potassium tetraiodomercurate(II)	786.40	dec hydr 400
1156	Hg(NCS) <sub>2</sub> Mercury(II) thiocyanate	316.76	dec 165
1157	Hg(NO <sub>3</sub> ) <sub>2</sub> ·(H <sub>2</sub> O) Mercury(II) nitrate	324.60	dec hydr >45
1158	Hg <sub>2</sub> (NO <sub>2</sub> ) <sub>2</sub> Dimercury dinitrite	493.19	dec 100
1159	Hg <sub>2</sub> (NO <sub>3</sub> ) <sub>2</sub> ·(2H <sub>2</sub> O) Dimercury dinitrate	525.19	mp hydr 70 dec
1160	HgO Mercury(II) oxide	216.59	dec 400-500
1161	α-HgS Mercury(II) sulfide	232.66	344 → β-HgS
1162	β-HgS	232.66	mp 820 (p)
1163	Hg(S <sub>2</sub> ) Mercury(II) disulfide(2-)	264.72	dec 390
1164	HgSO <sub>4</sub> Mercury(II) sulfate	296.65	dec >550
1165	Hg <sub>2</sub> SO <sub>4</sub> Dimercury sulfate	497.24	dec 550-600
1166	HgSe <sub>1+x</sub> Mercury(II) selenide	279.55	mp 799
1167	HgTe Mercury(II) telluride	328.19	mp 667
<b>1168 Ho Holmium</b>		164.930	mp 1470, bp 2707
1169	HoBr <sub>3</sub> ·(6H <sub>2</sub> O) Holmium(III) bromide	404.64	mp 919, bp 1336
1170	Ho <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> ·(10H <sub>2</sub> O) Holmium(III) oxalate	593.91	hydr 600 → Ho <sub>2</sub> O <sub>3</sub>
1171	HoCl <sub>3</sub> ·(6H <sub>2</sub> O) Holmium(III) chloride	271.29	mp 718, bp 1517
1172	HoF <sub>3</sub> Holmium(III) fluoride	221.92	mp 1143
1173	HoI <sub>3</sub> Holmium(III) iodide	545.64	mp 989, bp 1300

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1127	yel-orange, 5.60	+	...	+	+	+	+	+
1128	dk-brn	-	...	-	-	-	-/+	-
1129	wh, 9.68	-	...	+	-/+	-	-	-
1130	yel	i	...	+	+	+	i/+	i
1131	wh	i	...	-/+	-/+	-/+	i/+	i
<b>1132</b>	lt-grey lq, 13.5461 <sup>20</sup>	-	-	-	-/+	+	-	-
1133	yel	i	i	r	r	r	i	i
1134	wh, 6.11	d	r	-	-/+	-	+	...
1135	wh, 7.31	i	i	-	-/+	-/+	i	i
1136	wh hydr	d	...	+	-	-	+	...
1137	wh	+	...	+	+	-	+	+
1138	wh	i/+	...	+	+	+	-	+
1139	wh, 3.27	r/+	r	+	-	-	+	+
1140	wh, 3.40	r/+	r	-	-/+	-/+	-	+
1141	wh 4.42	i/r	r	-/+	-/+	-/+	+	+
1142	wh (r → grey)	i/+	i	+	+	+	-	-
1143	wh, 5.44	r	r	r	-	r	+	...
1144	wh, 7.15	i	i	i	-/+	-/+	-	-
1145	wh, 5.0	r/+	...	+	-	-/+	+	+
1146	wh, 6.41	r/+	r	+	+	r	+	+
1147	wh, 8.95	+	...	r	r	r	+	+
1148	lt-yel, 8.73	d/+	...	+	+	-	+	+
1149	red, 6.28	i	d	i	i/+	+	i	-
1150	yel, 6.27	i	d	i	i/+	+	i	-
1151	yel, 7.70	i	i	i	i/+	i/+	i	+
1152	yel, 6.02	i	i	+	+	+	-/+	-/+
1153	red hydr	r	r	-	-/+	+	-	+
1154	lt-yel hydr	r/+	r	-	-/+	+	-	+
1155	lt-yel hydr	r	r	-	-/+	+	-	+
1156	wh, 3.71	d/r	r	+	-/+	-/+	+	-
1157	wh hydr, 4.30	+	i	+	r	r	+	+
1158	yel, 7.33	+	...	+	-/+	-/+	+	+
1159	wh, 7.79(4.78)	+	...	+	r	r	+	+
1160	yel, 1.14	-/+	i	+	+	+	-	-
1161	red, 8.10	i/+	i	-	-/+	-/+	i	i
1162	blk, 7.65	i/+	i	-	-/+	-/+	i	i
1163	wh	i/+	...	+	+	+	-/+	-
1164	wh, 6.47	+	i	+	+	+	+	+
1165	wh, 7.56	i/+	...	+	+	+	+	...
1166	blk, 8.27	i	...	-	-/+	-/+	-	-
1167	blk	i	...	-	-	-/+	-	-
<b>1168</b>	wh, 8.799	psv/+	...	+	+	+	-	-
1169	yel	r	r	-	-/+	-	+	+
1170	yel hydr	i	i	i/+	i/+	i/+	i	i
1171	yel hydr, 3.715	r	r	r	-	-	+	+
1172	yel, 7.644	i	i	-	-	-	-	-
1173	yel	r	r	-	-/+	-/+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1174	Ho(NO <sub>3</sub> ) <sub>3</sub> (·5H <sub>2</sub> O) Holmium(III) nitrate	350.94	dec hydr 560
1175	Ho <sub>2</sub> O <sub>3</sub> Holmium(III) oxide	377.86	mp 2360
1176	Ho(OH) <sub>3</sub> Holmium(III) hydroxide	215.95	850 → Ho <sub>2</sub> O <sub>3</sub>
1177	Ho <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> (·8H <sub>2</sub> O) Holmium(III) sulfate	618.05	dec hydr >850
<b>1178</b>	<b>I<sub>2</sub> Diiodine</b>	<b>253.808</b>	<b>mp 113.5; bp 184.35</b>
1179	[IAg <sub>2</sub> ]NO <sub>3</sub> Di{silver(I)}iodine(-I) nitrate	404.64	mp 94
1180	IBr Iodine monobromide	206.81	mp 40.5; bp 116 dec
1181	[I(Br)Cl],Cs Cesium bromochloroiodate(I)	375.17	mp 235, dec 290
1182	[I(Br) <sub>2</sub> ],Cs Cesium dibromoiodate(I)	419.62	mp 248, dec 320
1183	[I(Br) <sub>2</sub> ],K Potassium dibromoiodate(I)	325.81	mp 58, dec 180
1184	ICl Iodine monochloride	162.36	mp 27.19; bp 97.4 dec
1185	I <sub>2</sub> Cl <sub>6</sub> Diiodine hexachloride	466.53	dec 77, mp 101 (p)
1186	[I(Cl) <sub>2</sub> ],Cs Cesium dichloroiodate(I)	330.72	mp 238, dec 290
1187	[ICl <sub>4</sub> ],Cs Cesium tetrachloroiodate(III)	401.62	mp 228 dec
1188	[I(Cl) <sub>2</sub> ],K Potassium dichloroiodate(I)	236.91	dec 215
1189	[ICl <sub>4</sub> ],K Potassium tetrachloroiodate(III)	307.81	mp 116 dec
1190	IF Iodine monofluoride	145.90	mp -14 dec
1191	IF <sub>3</sub> Iodine trifluoride	183.90	subl -28 dec
1192	IF <sub>5</sub> Iodine pentafluoride	221.89	mp 9.421; bp 104.48
1193	IF <sub>7</sub> Iodine heptafluoride	259.89	mp 6.4 (p), dec 530
1194	[I(I) <sub>2</sub> ],Cs Cesium diiodoiodate(I)	513.62	mp 215 dec
1195	[I(I) <sub>2</sub> ],K (·H <sub>2</sub> O) Potassium diiodoiodate(I)	419.81	mp hydr 38, dec hydr 225
1196	[I(O) <sub>2</sub> ],NH <sub>4</sub> Ammonium diiodoiodate(I)	398.75	dec 175
1197	[I(O) <sub>2</sub> ],Rb Rubidium diiodoiodate(I)	466.18	mp 104 dec
1198	I <sub>3</sub> N (·nNH <sub>3</sub> ) Triiodine nitride	394.72	dec hydr >20
1199	I <sub>2</sub> O <sub>4</sub> Diiodine pentaoxide	333.80	dec 275-350
1200	IO <sub>2</sub> F <sub>3</sub> Iodine dioxide-trifluoride	215.90	mp 42.5; bp 147
1201	[I(O) <sub>2</sub> F <sub>4</sub> ],H Hydrogen dioxotetrafluoroiodate(VII)	235.90	mp 36, dec 130
1202	(IO)IO <sub>3</sub> Oxiodine(III) iodate	317.80	dec 130
<b>1203</b>	<b>In Indium</b>	<b>114.82</b>	<b>mp 156.634; bp 2024</b>
1204	InAs Indium monoarsenide	189.74	mp 943
1205	InBr Indium(I) bromide	194.72	mp 285, bp 662
1206	InBr <sub>3</sub> (·5H <sub>2</sub> O) Indium(III) bromide	354.53	subl 371, mp 419.7 (p)
1207	[In <sup>III</sup> Br <sub>4</sub> ],In Indium(I) tetrabromoindate(III)	549.26	mp 198, bp 638
1208	InCl Indium(I) chloride	150.27	mp 225, bp 653
1209	InCl <sub>3</sub> (·4H <sub>2</sub> O) Indium(III) chloride	221.18	subl 498, mp 583 (p)
1210	[In <sup>III</sup> Cl <sub>4</sub> ],In Indium(I) tetrachloroindate(III)	371.45	mp 240, bp 655
1211	In(ClO <sub>4</sub> ) <sub>3</sub> (·8H <sub>2</sub> O) Indium(III) perchlorate	413.17	mp hydr 80, dec 200
1212	InF <sub>3</sub> (·3H <sub>2</sub> O) Indium(III) fluoride	171.81	mp 1172, bp >1200
1213	InI Indium(I) iodide	241.72	mp 365, bp 743
1214	InI <sub>3</sub> Indium(III) iodide	495.53	mp 210, bp 447
1215	[In <sup>III</sup> I <sub>4</sub> ],In Indium(I) tetraiodoindate(III)	737.26	mp 225
1216	InN Indium mononitride	128.83	mp 1200
1217	In(NO <sub>3</sub> ) <sub>3</sub> (·5H <sub>2</sub> O) Indium(III) nitrate	300.83	-H <sub>2</sub> O 100, t → In <sub>2</sub> O <sub>3</sub>
1218	In <sub>2</sub> O <sub>3</sub> Indium(III) oxide	277.64	mp 1910, bp ca. 3300
1219	In(OH) <sub>3</sub> Indium(III) hydroxide	165.84	ca. 150 → In <sub>2</sub> O <sub>3</sub>
1220	InP Indium monophosphide	145.79	mp 1062 (p)

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1174	yel hydr	r	r	-	-	r	+	+
1175	yel, 8.24	-/+	-	+	+	+	-	-
1176	yel	i	i	+	+	+	i	i
1177	yel hydr	r/d	...	-	r	-	+	+
1178	viol-blk, 4.93	+	r	-	-/+	-/+	+	+
1179	wh	+	...	+	+	+	+	+
1180	blk-brn, 4.42	+	r	+	+	+	+	+
1181	yel-red	r	r	-	-/+	-/+	+	...
1182	red, 4.25	r	r	-	-/+	-/+	+	...
1183	red	r	r	-	-/+	-/+	+	...
1184	dk-red, 3.18	+	r/+	+	+	+	+	+
1185	orange-yel, 3.20	+	r	+	+	+	+	+
1186	orange, 3.86	r	r	-	-/+	-/+	+	...
1187	lt-orange, 3.37	d	r/+	-	-/+	-/+	+	+
1188	orange	r/+	r	-	-/+	-/+	+	...
1189	yel, 1.76	r/+	r	-	-/+	-/+	+	+
1190	red	+	+	+	+	+	+	+
1191	yel	+	+	+	+	+	+	+
1192	cl lq, 3.231 <sup>15</sup>	+	+	+	+	+	+	+
1193	cl lq, 2.8 <sup>6</sup>	+	+	+	+	+	+	+
1194	blk, 4.47	i	r	-	-/+	-/+	+	...
1195	dk-brn hydr	r	r	-	-/+	-/+	+	...
1196	dk-brn, 3.75	r/+	r	-	-/+	-/+	+	...
1197	blk, 4.03	r	r	-	-/+	-/+	+	...
1198	red-brn hydr	+	i	+	+	+	+	+
1199	wh, 4.80	+	i	+	+	+	+	+
1200	yel	+	+	+	+	+	+	+
1201	wh	+	+	+	+	+	+	+
1202	yel, 4.97	i/+	...	-	-/+	-/+	+	+
1203	wh, 7.30	-	...	+	+	+	-	-
1204	dk-grey, 5.666	-	i	+	+	+	-	-
1205	red, 4.96	+	...	+	+	+	+	+
1206	wh, 4.74	r	r	r	-/+	-	+	+
1207	wh, 4.22	+	...	+	+	+	+	+
1208	yel, 4.18	+	i	+	+	+	+	+
1209	wh, 3.46	r	r	r	-	-	+	+
1210	wh, 3.65	+	...	+	+	+	+	+
1211	wh hydr	r/+	r	-	-	-	+	+
1212	wh, 4.39	d/+	i	-	-	-	+	+
1213	dk-red, 5.32	+	i	+	+	+	+	+
1214	yel, 4.68	r	r	-	-/+	-/+	+	+
1215	red-brn, 4.71	+	...	+	+	+	+	+
1216	grey	-	i	+	-/+	-/+	-	-
1217	wh	r	r	-	-	r	+	+
1218	lt-yel, 7.18	-	...	+	+	+	-	-
1219	wh, 4.33	i	...	+	+	+	i/+	i
1220	dk-grey, 4.787	-	...	+	+	+	-	-

No.	Formula and name	$M_r$	Phase transition temperature
1221	$\text{In}_2\text{S}$ Indium(I) sulfide	261.71	mp 653
1222	$\text{In}_2\text{S}_3$ Indium(III) sulfide	325.84	mp 1072
1223	$\text{In}_2(\text{SO}_4)_3 \cdot (9\text{H}_2\text{O})$ Indium(III) sulfate	517.83	$-\text{H}_2\text{O}$ 200, dec 600
1224	$\text{InSb}$ Indiumantimony	236.57	mp 546
1225	$\text{In}_2\text{Se}_3$ Indium(III) selenide	466.52	mp 900
1226	$\text{In}_2\text{Te}_3$ Indium(III) telluride	612.44	mp 670
<b>1227</b>	<b>Ir Iridium</b>	192.22	mp 2443, bp 4380
1228	$[\text{IrBr}_6], \text{Na}_3 \cdot (12\text{H}_2\text{O})$ Sodium hexabromoiodate(III)	740.61	mp hydr 100, $-\text{H}_2\text{O}$ 150
1229	$[\text{Ir}(\text{C}_2\text{O}_4)_3], \text{K}_3 \cdot (4\text{H}_2\text{O})$ Potassium trioxalatoiodate(III)	573.57	$-\text{H}_2\text{O}$ >240
1230	$[\text{Ir}_2(\text{CO})_8]$ Octacarbonyldiiridium	608.52	subl 160
1231	$[\text{Ir}_4(\text{CO})_{12}]$ Dodecacarbonyltetrairidium	1105.00	subl 210
1232	$\text{IrCl}_3 \cdot (n\text{H}_2\text{O})$ Iridium(III) chloride	298.58	>760 $\rightarrow$ Ir
1233	$\text{IrCl}_4$ Iridium(IV) chloride	334.03	dec ca. 700
1234	$[\text{IrCl}_6], \text{K}_2$ Potassium hexachloroiodate(IV)	483.13	dec ca. 600
1235	$[\text{IrCl}_6], \text{K}_3$ Potassium hexachloroiodate(III)	522.23	dec ca. 500
1236	$[\text{IrCl}_6], \text{K}_4$ Potassium hexachloroiodate(II)	561.33	dec >700
1237	$[\text{IrCl}_6], (\text{NH}_4)_2$ Ammonium hexachloroiodate(IV)	441.02	>200 $\rightarrow$ Ir, $\text{NH}_4\text{Cl}$
1238	$[\text{IrCl}_6], \text{Na}_2 \cdot (6\text{H}_2\text{O})$ Sodium hexachloroiodate(IV)	450.92	dec hydr < 600
1239	$[\text{IrCl}_6], \text{Na}_3 \cdot (12\text{H}_2\text{O})$ Sodium hexachloroiodate(III)	473.91	$-\text{H}_2\text{O}$ 50, dec 800
1240	$\text{IrF}_3$ Iridium(III) fluoride	249.21	dec 250
1241	$\text{IrF}_4$ Iridium(IV) fluoride	268.21	mp 106, dec 400
1242	$\text{IrF}_5$ Iridium(V) fluoride	287.21	mp 104.5
1243	$\text{IrF}_6$ Iridium(VI) fluoride	306.21	mp 44.1; bp 53.6
1244	$[\text{Ir}_2(\text{NH}_3)_{10}]$ Decaammineiridium	554.75	dec 90
1245	$[\text{Ir}(\text{NH}_3)_6]\text{Cl}_3$ Hexaammineiridium(III) chloride	400.77	dec 500
1246	$[\text{Ir}(\text{NH}_3)_5\text{Cl}]\text{Cl}_2$ Pentaamminechloroiodide(III) chloride	383.73	dec 550
1247	$[\text{Ir}(\text{NH}_3)_6](\text{NO}_3)_3$ Hexaammineiridium(III) nitrate	480.42	dec >500
1248	$\text{IrO}_2$ Iridium(IV) oxide	224.22	dec >800
1249	$\text{Ir}_2\text{O}_3$ Iridium(III) oxide	432.44	dec 400–500
1250	$\text{Ir}_2\text{O}_3 \cdot n\text{H}_2\text{O}$	—	dec 300
1251	$\text{Ir}(\text{OH})_4$ Iridium(IV) hydroxide	260.25	350 $\rightarrow$ $\text{IrO}_2$
1252	$\text{IrS}_2$ Iridium(IV) sulfide	256.35	dec 300
1253	$\text{Ir}_2\text{S}_3$ Iridium(III) sulfide	480.64	dec $t$
1254	$\text{Ir}_2(\text{SO}_4)_3 \cdot (n\text{H}_2\text{O})$ Iridium(III) sulfate	672.63	dec hydr >300
<b>1255</b>	<b>K Potassium</b>	39.098	mp 63.5; bp 760
1256	$\text{KAg}(\text{NO}_3)_2$ Potassium-silver(I) nitrate	270.97	mp 135; 300 $\rightarrow$ $\text{KNO}_3, \text{Ag}$
1257	$\text{KAl}(\text{SO}_4)_2 \cdot (12\text{H}_2\text{O})$ Potassium-aluminum sulfate	258.20	mp hydr 92, $-\text{H}_2\text{O}$ 120
1258	$\text{KAl}_3(\text{SO}_4)_2(\text{OH})_6$ Potassium-trialuminum bis(sulfate)-hexahydroxide	414.21	dec 800
1259	$\text{KBO}_2 \cdot (1.33\text{H}_2\text{O})$ Potassium metaborate	81.91	$-\text{H}_2\text{O}$ 250, mp 940
1260	$\text{K}_2\text{B}_4\text{O}_7 \cdot (8\text{H}_2\text{O})$ Potassium tetraborate	233.43	dec hydr >420, mp 815
1261	$\text{KBr}$ Potassium bromide	119.00	mp 734, bp 1380
1262	$\text{KBrO}_3$ Potassium bromate	167.00	mp 434 dec
1263	$\text{KBrO}_4$ Potassium perbromate	183.00	275 $\rightarrow$ $\text{KBrO}_3$
1264	$\text{K}(\text{CH}_3\text{COO}) \cdot (1.5\text{H}_2\text{O})$ Potassium acetate	98.14	mp 310
1265	$\text{K}_2(\text{C}_4\text{H}_4\text{O}_6) \cdot (0.5\text{H}_2\text{O})$ Potassium tartrate	226.27	dec hydr >150

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1221	blk, 5.87	i/+	i	+	+	+	-/+	-
1222	dk-red, 4.65	i	...	+	+	+	+	-
1223	wh hydr, 3.44	r	...	-	r	-	+	+
1224	grey, 5.755	-	-	+	+	+	-	-
1225	viol-blk, 5.67	i	...	-/+	-/+	-/+	-	-
1226	blk, 5.80	i	...	-/+	-/+	-/+	-	-
1227	wh, 22.421	-	-	-	-	-	-	-
1228	dk-grn hydr	r	...	-	-/+	+	+	+
1229	orange hydr, 2.51	r	i	-	-/+	-/+	-/+	-
1230	yel-grn	i/+	r	-	-/+	-/+	-	-
1231	yel	i/+	r	-	-/+	-	-/+	-
1232	dk-grn hydr, 5.30	i	i	i/+	i/-	i/-	-	i/-
1233	brn	r/+	r	+	-	r	+	+
1234	dk-red, 3.55	d	i	-	-	-	-/+	-
1235	dk-grn	r	i	-/+	-/+	-/+	-/+	-/+
1236	blk, 3.55	r	i	r	-/+	-/+	-/+	-
1237	red-blk, 2.86	d/r	i	-	-	-	+	+
1238	dk-red hydr	r	r	-	-	-	+	+
1239	dk grn	r	...	-	-/+	+	+	+
1240	blk	i	r	-/+	-	-	-/+	-/+
1241	yel	+	r	+	-	-	+	+
1242	yel	+	r/+	+	+	+	+	+
1243	yel, ca. 6	+	+	+	+	+	+	+
1244	yel	+	...	+	+	+	-/+	+/r
1245	wh, 2.43	r	...	+	+	+	...	r
1246	lt-yel, 2.68	d/r	...	i	+	+	-	d
1247	wh, 2.39	d	r	+	+	+	-	r
1248	blk-bl, 11.655	-	i	+	-	-	-	-
1249	bl-blk	-	...	+	+	+	+	+
1250	dk-grn	i	...	+	+	+	-/+	-/+
1251	bl-blk, 3.15	i	...	+	-/+	+	i	i
1252	brn-blk, 8.43	i	...	-	-/+	-/+	i	-
1253	brn-blk, 9.64	i	...	-	-/+	-/+	i	-
1254	yel hydr	r	r	-	r	-	+	+
1255	wh, 0.86	+	+	+	+	+	+	+
1256	wh, 3.22	r	r	+	+	r	+	+
1257	wh, 2.75(1.76)	r	i	r	r	r	+	+
1258	wh, 2.7	i	i	-/+	-/+	-/+	-/+	-
1259	wh	+	i	+	+	+	+	+
1260	wh, 1.74	r	...	-	-	-	-/+	-
1261	wh, 2.75	r	d	r	r/+	r	r	r
1262	wh, 3.27	r	d	r	r	r	r	r
1263	wh	r	...	-	-	-	-	...
1264	wh, 1.57	r	r	r	r	r	r	r
1265	wh hydr	i	...	-/+	-/+	-/+	-	-

No.	Formula and name	$M_t$	Phase transition temperature
1266	KCN Potassium cyanide	65.12	mp 634.5, bp 1625
1267	$K_2CO_3 \cdot (1.5H_2O)$ Potassium carbonate	138.20	mp 891, dec >1200
1268	$K_2C_2O_4 \cdot (H_2O)$ Potassium oxalate	166.21	dec hydr 100–160
1269	$K_2Ca(SO_4)_2 \cdot (H_2O)$ Dipotassium-calcium sulfate	310.40	mp 1004
1270	$K_2Cd(SO_4)_2 \cdot (2H_2O)$ Dipotassium-cadmium(II) sulfate	382.73	dec hydr 200
1271	KCl Potassium chloride	74.55	mp 770, bp 1430
1272	KClO <sub>3</sub> Potassium chlorate	122.55	mp 357, dec 400
1273	KClO <sub>4</sub> Potassium perchlorate	138.55	mp 525, 620 → KCl
1274	$K_2Co(SO_4)_2 \cdot (6H_2O)$ Dipotassium-cobalt(II) sulfate	329.25	dec hydr 210
1275	$K_2CrO_4$ Potassium chromate	194.19	mp 968.3
1276	$K_2Cr_2O_7$ Potassium dichromate	294.18	mp 397.5; dec ca. 600
1277	$K_2Cr_3O_{10}$ Potassium decaoxotrichromate(VI)	394.17	dec 243
1278	$K_2Cr_4O_{13}$ Potassium 13-oxotetrachromate(VI)	494.17	dec 210
1279	K(CrO <sub>3</sub> Cl) Potassium chlorochromate	174.54	dec >100
1280	$KCr(SO_4)_2 \cdot (12H_2O)$ Potassium-chromium(III) sulfate	283.22	mp hydr 89, -H <sub>2</sub> O 400
1281	KF Potassium fluoride	58.10	mp 857, bp 1505
1282	KF·2H <sub>2</sub> O	94.13	mp 42, bp 156
1283	$K_2FeO_4$ Potassium ferrate	198.04	dec 700
1284	$KFe(SO_4)_2 \cdot (12H_2O)$ Potassium-iron(III) sulfate	287.07	mp hydr 33
1285	$K_2Fe(SO_4)_2 \cdot (6H_2O)$ Dipotassium-iron(II) sulfate	326.17	dec hydr ca. 200
1286	$K_2GeO_3$ Potassium germanate	198.80	mp 830
1287	KH Potassium hydride	40.11	mp 400 ( <i>p</i> )
1288	KH <sub>2</sub> AsO <sub>4</sub> Potassium dihydroarsenate	180.03	mp 288 dec
1289	K <sub>2</sub> HAsO <sub>4</sub> Potassium hydroarsenate	218.12	dec 30
1290	KHC <sub>4</sub> H <sub>4</sub> O <sub>6</sub> Potassium hydrotartrate	188.18	dec >460
1291	KHCO <sub>3</sub> Potassium hydrocarbonate	100.11	dec 100–120
1292	KHC <sub>2</sub> O <sub>4</sub> Potassium hydrooxalate	128.12	dec <i>t</i>
1293	K(HCOO) Potassium formate	84.12	mp 168.7; dec >250
1294	K(HF <sub>2</sub> ) Potassium hydrodifluoride	78.10	mp 238.7; >310 → KF
1295	KH(PhO <sub>3</sub> ) Potassium hydrophosphonate	120.09	dec <i>t</i>
1296	KH <sub>2</sub> PO <sub>4</sub> Potassium dihydroorthophosphate	136.08	mp 252.6 dec
1297	$K_2HPO_4 \cdot (3H_2O)$ Potassium hydroorthophosphate	174.17	250 → K <sub>4</sub> P <sub>2</sub> O <sub>7</sub>
1298	KHS (·0.5H <sub>2</sub> O) Potassium hydrosulfide	72.17	-H <sub>2</sub> O <i>t</i> , mp 455
1299	KHSO <sub>3</sub> Potassium hydrosulfite	120.17	dec ca. 190
1300	KHSO <sub>4</sub> Potassium hydrosulfate	136.17	mp 218.6; dec 240–340
1301	KI Potassium iodide	166.00	mp 681, bp 1324
1302	KIO <sub>3</sub> Potassium iodate	214.00	mp 560 dec
1303	KIO <sub>4</sub> Potassium metaperiodate	230.00	mp 582 ( <i>p</i> )
1304	KMgCl <sub>3</sub> (·6H <sub>2</sub> O) Potassium-magnesium chloride	169.76	mp hydr 116, mp 487
1305	$K_2Mg(SO_4)_2 \cdot (6H_2O)$ Dipotassium-magnesium sulfate	294.63	dec hydr ca. 72
1306	$KMg(SO_4)Cl \cdot (3H_2O)$ Potassium-magnesium sulfate-chloride	194.92	dec hydr >200
1307	$K_2Mg(SeO_4)_2 \cdot (6H_2O)$ Dipotassium-magnesium selenate	388.41	-H <sub>2</sub> O 180
1308	KMnO <sub>4</sub> Potassium permanganate	158.03	dec >240

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1266	wh, 1.52	r	d	r	r	r	r	r
1267	wh, 2.43	r	i	+	+	+	r	r
1268	wh hydr, 2.13	r	i	-/+	-/+	-/+	r	r
1269	wh hydr, 2.57	d	i	-	+	-	+	+
1270	wh hydr, 2.92	r	i	-	r	-	+	+
1271	wh, 1.98	r	d	r/i	r/+	r	r	r
1272	wh, 2.32	r	r	-/+	-	r	-	-
1273	wh, 2.52	r	i	-	-	-	-	-
1274	red hydr, 2.22	r	i	-	r	i	+	+
1275	yel, 2.73	r	i	+	+	+	r	r
1276	orange-red, 2.68	r	i	r/+	r	r	+	+
1277	dk-red	+	...	-/+	-	-	+	+
1278	brn-red	+	...	-/+	-	-	+	+
1279	orange, 2.50	+	r	+	+	+	+	+
1280	dk-viol hydr, 1.84	r	i	-	r	-	+	+
1281	wh, 2.48	r	i	r	r/+	r	-	-
1282	wh, 2.45	r	i	r	r/+	r	-	-
1283	red-viol	r	...	+	+	+	-/+	+
1284	wh hydr, 1.83	r	i	-	r	-	+	+
1285	lt-grn hydr, 2.17	r	i	-	r	-/+	+	+
1286	wh, 3.40	r	...	+	+	+	-	-
1287	wh, 1.43	+	+	+	+	+	+	+
1288	wh, 2.87	r	i	r	r	r	+	+
1289	wh	r	i	r	r	r	+	+
1290	wh	d	i	-	-	-	+	+
1291	wh, 2.17	r	i	+	+	+	+	+
1292	wh, 2.04	r	i	-/+	-/+	-/+	+	+
1293	wh, 1.91	r	d	r	r/+	r/+	r	r
1294	wh, 2.37	r	i	-/+	-/+	-/+	+	+
1295	wh	r	i	-	-	-	+	+
1296	wh, 2.34	r	i	r	r	r	+	+
1297	wh hydr, 2.33	r	r	r	r	r	+	+
1298	wh, 1.68	r/+	r	+	+	+	+	+
1299	wh	r	i	-/+	-/+	-/+	+	+
1300	wh, 2.32	r	i	-	r	-	+	+
1301	wh, 3.12	r	r	r	r/+	r/+	r	r
1302	wh, 3.93	r	i	r/+	r	r	-	-
1303	wh, 3.62	d	d	d	d	d	d	d
1304	wh hydr, 1.60	r	...	r	-	-	+	+
1305	wh hydr, 2.03	r	...	-	r	-	+	+
1306	wh, 2.15	r	...	r	r	-	+	+
1307	wh hydr, 2.36	r	i	-/+	r/+	-	+	+
1308	dk-viol, 2.70	r	+	r/+	r/+	r/+	r/+	+

No.	Formula and name	$M_r$	Phase transition temperature
1309	$K_2MnO_4$ Potassium manganate	197.13	dec >500
1310	$K_2MoO_4 \cdot (nH_2O)$ Potassium molybdate	238.13	mp 926, dec 1400
1311	$KN_3$ Potassium azide	81.12	mp 343, dec >355
1312	$K_3N(?)$ Tripotassium nitride	131.30	dec $t$
1313	KNCS Potassium thiocyanate	97.18	mp 173.2; bp 500 dec
1314	KNCSe Potassium selenocyanate	144.08	dec 100–158
1315	$KNH_2$ Potassium amide	55.12	mp 338 dec 700
1316	$KNO_2$ Potassium nitrite	85.10	mp 440 dec >900
1317	$KNO_3$ Potassium nitrate	101.10	mp 334.5; 400 $\rightarrow$ $KNO_2$
1318	$KNa(C_4H_4O_6) \cdot (4H_2O)$ Potassium-sodium tartrate	210.16	mp hydr 75, $-H_2O$ 215
1319	$KNaCO_3 \cdot (6H_2O)$ Potassium-sodium carbonate	122.10	$-H_2O$ 100
1320	$K_2Ni(SO_4)_2 \cdot (6H_2O)$ Dipotassium-nickel(II) sulfate	329.01	dec hydr ca. 100
1321	$KO_2$ Potassium superoxide	71.10	mp 535 ( $p$ ), dec 400
1322	$KO_3$ Potassium ozonide	87.10	dec 60
1323	$K_2O$ Potassium oxide	94.20	350 $\rightarrow$ $K_2O_2, K$
1324	$K_2O_2$ Potassium peroxide	110.19	mp 545 ( $p$ ), dec 500
1325	KOCN Potassium cyanate	81.12	dec >700
1326	KOH Potassium hydroxide	56.11	mp 404, bp 1324
1327	KOH·H <sub>2</sub> O	74.12	mp 145
1328	KOH·2H <sub>2</sub> O	92.14	33 $\rightarrow$ KOH·H <sub>2</sub> O
1329	$K(PH_2O_2)$ Potassium phosphinate	104.09	dec $t$
1330	$K_2(PHO_3)$ Potassium phosphonate	158.18	dec $t$
1331	$KPO_3$ Potassium metaphosphate	118.07	mp 813, bp 1320
1332	$K_3PO_4 \cdot (7H_2O)$ Potassium orthophosphate	212.26	mp 1640
1333	$K_4P_2O_7 \cdot (3H_2O)$ Potassium diphosphate	330.33	$-H_2O$ 300
1334	$K_2(PO_3F)$ Potassium fluoroorthophosphate	176.17	mp 825
1335	$KReO_4$ Potassium perrhenate	289.30	mp 553, bp 1367
1336	$KRh(SO_4)_2 \cdot (12H_2O)$ Potassium-rhodium(III) sulfate	334.13	dec hydr >200
1337	$KRuO_4$ Potassium tetraoxoruthenate(VII)	204.16	dec >200
1338	$K_2RuO_4 \cdot (H_2O)$ Potassium tetraoxoruthenate(VI)	243.26	$-H_2O$ 200
1339	$K_2S$ Potassium sulfide	110.26	mp 912
1340	$K_2S \cdot 5H_2O$	200.34	mp 60, $-H_2O$ 150
1341	$K_2(S_2)$ Potassium disulfide(2-)	142.33	mp 520 dec
1342	$K_2(S_3)$ Potassium trisulfide(2-)	174.39	mp 292 dec
1343	$K_2(S_4)$ Potassium tetrasulfide(2-)	206.46	soft >159 dec
1344	$K_2(S_5)$ Potassium pentasulfide(2-)	238.53	mp 211 dec
1345	$K_2(S_6)$ Potassium hexasulfide(2-)	270.59	mp 196 dec
1346	$K_2SO_3 \cdot (H_2O)$ Potassium sulfite	158.26	dec hydr 600
1347	$K_2SO_4$ Potassium sulfate	174.26	mp 1074
1348	$K_2S_2O_5$ Potassium pentaoxidisulfate(IV)	222.32	dec >190
1349	$K_2S_2O_6$ Potassium dithionate	238.32	dec >258
1350	$K_2S_2O_7$ Potassium disulfate	254.32	440 $\rightarrow$ $K_2SO_4$
1351	$K_2S_3O_6$ Potassium trithionate	270.39	dec 300–400
1352	$K_2S_4O_6$ Potassium tetrathionate	302.45	dec >500
1353	$K_2S_5O_6 \cdot (1.5H_2O)$ Potassium pentathionate	334.52	dec hydr $t$
1354	$K(SO_2F)$ Potassium fluorosulfite	122.16	dec 175
1355	$K(SO_3F)$ Potassium fluorosulfonate	138.16	mp 311

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1309	dk-grn, 2.80	+	+	+	+	+	+/-	+/-
1310	wh, 2.91	r/+	i	+	+	+	-	-
1311	wh, 2.04	r	r	+	+	+	r	r
1312	grn-blk	+	...	+	+	+	+	+
1313	wh, 1.89	r	r	r	r/+	r/+	r	r
1314	wh, 2.35	r	r	+	+	+	-	-
1315	wh	+	+	+	+	+	+	+
1316	wh, 1.92	r	i/r	-/+	-/+	-/+	-	-
1317	wh, 2.11	r	i	r	r	r	r	r
1318	wh hydr, 1.79	r	d	-/+	-/+	-/+	-	-
1319	wh hydr, 1.63	r	...	+	+	+	r	r
1320	bl-grn hydr, 2.12	r	i	-	r	-	+	+
1321	orange-yel, 2.16	+	+	+	+	+	+	+
1322	red, 1.99	+	+	+	+	+	+	+
1323	wh, 2.33	+	+	+	+	+	+	+
1324	wh, 2.40	+	...	+	+	+	+	+
1325	wh, 2.06	r/+	i	-/+	-/+	-/+	r	r
1326	wh, 2.04	r	r	+	+	+	r	r
1327	wh	r	r	+	+	+	r	r
1328	wh	r	r	+	+	+	r	r
1329	wh	r	d	-	-/+	-/+	-	-
1330	wh	r	r	-	-	-	-	-
1331	wh, 2.39	r/+	i	-/+	-/+	-/+	+	+
1332	wh, 2.56	r	i	r	r	r	r	r
1333	wh hydr, 2.83	r/+	i	+	+	+	-/+	-
1334	wh	r	...	+	+	+	+	+
1335	wh, 4.89	d	d	-	-	-	-	-
1336	yel hydr, 2.23	r	i	-/+	r/+	-/+	+	+
1337	blk	d	...	-	-	-	+	+
1338	dk-grn	r	...	+	+	+	-	-
1339	wh, 1.74	r/+	r	+	+	+	r	r
1340	wh	r/+	r	+	+	+	r	r
1341	yel, 1.97	r/+	r	+	+	+	-	-
1342	yel-orange, 2.10	r/+	r	+	+	+	-	-
1343	orange-yel	r/+	r	+	+	+	-	-
1344	yel-brn, 2.13	r/+	d	+	+	+	-	-
1345	red-brn, 2.02	r/+	d	+	+	+	-	-
1346	wh hydr	r	d	+	+	+	r	r
1347	wh, 2.66	r	i	-	r	-	r	r
1348	wh, 2.34	r/+	d	+	+	+	-	-
1349	wh, 2.28	r	i	-	-/+	-/+	-	-
1350	wh, 2.27	r/+	i	+	+	+	+	+
1351	wh, 2.33	r/+	i	-	-/+	-/+	-	-
1352	wh, 2.29	r	i	-	-/+	-/+	-	-
1353	wh hydr, 2.11	r	i	-	-/+	-/+	+	+
1354	wh	+	...	+	+	+	+	+
1355	wh	r/+	...	-/+	-/+	-/+	-/+	...

No.	Formula and name	$M_r$	Phase transition temperature
1356	$K_2S_2O_8(O_2)$ Potassium peroxodisulfate	270.32	ca. 100 $\rightarrow$ $K_2S_2O_7$
1357	$K_2(SO_3S)$ ( $\cdot 1.67H_2O$ ) Potassium thiosulfate	190.33	$-H_2O$ 200, dec $>430$
1358	$K_3Sb$ Tripotassium stibide	239.04	mp 812
1359	$K_2Se$ Potassium selenide	157.16	mp ca. 820
1360	$K_2SeO_4$ Potassium selenate	221.15	mp 1020 ( <i>p</i> ), dec 600
1361	$K_2SiO_3$ Potassium metasilicate	154.28	mp 976
1362	$K_2Si_2O_5$ Potassium pentaoxosilicate(iv)	214.36	mp 1045
1363	$K_2Te$ Potassium telluride	205.80	mp ca. 1000
1364	$K_2TeO_3$ Potassium tellurite	253.79	mp 460–470
1365	$K_2UO_2(SO_4)_2$ ( $\cdot 2H_2O$ ) Dipotassium-uranyl sulfate	540.35	$-H_2O$ 120
1366	$KVO_3$ Potassium metavanadate	138.04	mp 522
1367	$K_3VO_4$ Potassium orthovanadate	232.23	mp ca. 1300
1368	$KV(SO_4)_2$ ( $\cdot 12H_2O$ ) Potassium-vanadium(III) sulfate	282.16	mp hydr 20, dec 300
1369	$K_2WO_4$ ( $\cdot 2H_2O$ ) Potassium wolframate	326.04	mp 923
1370	<b>Kr Krypton</b>	83.80	mp $-157.37$ ; bp $-153.22$
1371	Kr.5.75 $H_2O$	187.39	dec $-28$
1372	$KrF_2$ Krypton difluoride	121.80	mp $-77$ , dec $>-40$
1373	<b>Ku Kurchatovium</b> (1995 yr: Dubnium, Db)	261.109	...
1374	<b>La Lanthanum</b>	138.906	mp 920, bp 3450
1375	$LaB_6$ Lanthanum hexaboride	203.77	mp 2210
1376	$LaBr_3$ ( $\cdot 7H_2O$ ) Lanthanum(III) bromide	378.62	mp 783, bp ca. 1700
1377	$La(BrO_3)_3$ ( $\cdot 9H_2O$ ) Lanthanum(III) bromate	522.61	mp hydr 37.7; dec hydr <i>t</i>
1378	$LaC_2$ Lanthanum dicarbide	162.93	mp 2360
1379	$La_2(C_2O_4)_3$ ( $\cdot 10H_2O$ ) Lanthanum(III) oxalate	541.87	hydr $>600$ $\rightarrow$ $La_2O_3$
1380	$LaCl_3$ Lanthanum(III) chloride	245.27	mp 862, bp 1710
1381	$LaCl_3 \cdot 7H_2O$	371.37	mp 91 dec
1382	$LaF_3$ Lanthanum(III) fluoride	195.90	mp 1493, bp 2330
1383	$LaI_3$ Lanthanum(III) iodide	519.62	mp 779, bp 1580
1384	$La_2(MoO_4)_3$ Lanthanum(III) molybdate	757.62	mp 1015
1385	$La(NO_3)_3$ ( $\cdot 6H_2O$ ) Lanthanum(III) nitrate	324.92	mp hydr 43, dec hydr <i>t</i>
1386	$La_2O_3$ Lanthanum(III) oxide	325.81	mp 2280, bp ca. 4200
1387	$La(OH)_3$ Lanthanum(III) hydroxide	189.93	1100 $\rightarrow$ $La_2O_3$
1388	$LaS$ Lanthanum monosulfide	170.97	mp 2330
1389	$La_2S_3$ Lanthanum(III) sulfide	374.01	mp 2150
1390	$La_2(SO_4)_3$ ( $\cdot 9H_2O$ ) Lanthanum(III) sulfate	566.00	$-H_2O$ 600, dec 1150
1391	$La_2(SeO_4)_3$ ( $\cdot 5H_2O$ ) Lanthanum(III) selenate	706.68	$-H_2O$ 180–200
1392	<b>Li Lithium</b>	6.941	mp 180.5; bp 1336.6
1393	$LiAlO_2$ Lithium dioxoaluminate(III)	65.92	mp 1600
1394	$Li_3AsO_4$ Lithium arsenate	159.74	mp 1150
1395	$LiBO_2$ ( $\cdot 6H_2O$ ) Lithium metaborate	49.75	$-H_2O$ 110, mp 849
1396	$Li_2B_4O_7$ ( $\cdot 5H_2O$ ) Lithium tetraborate	169.12	$-H_2O$ 200, mp 918
1397	$LiBr$ ( $\cdot 2H_2O$ ) Lithium bromide	86.85	mp 552, bp 1310
1398	$Li_2C_2$ Lithium acetylide	37.90	dec $>750$
1399	$Li(CH_3COO)$ ( $\cdot 2H_2O$ ) Lithium acetate	65.99	mp hydr 54.5, dec $>275$
1400	$Li_2CO_3$ Lithium carbonate	73.89	mp 618, dec 730
1401	$Li_2C_2O_4$ Lithium oxalate	101.90	dec $>400$
1402	$LiCl$ Lithium chloride	42.39	mp 610, bp 1380

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1356	wh, 2.48	r/+	i	-/+	-/+	-/+	-	-
1357	wh, 2.23(2.59)	r	i	+	+	+	-	-
1358	grn, 2.35	+	...	+	+	+	+	+
1359	wh, 2.29	r/+	r	+	+	+	r	r
1360	wh, 3.07	r	i	-/+	-/+	-	-	-
1361	wh	r	i	+	+	+	-	-
1362	wh, 2.46	r	i	+	+	+	+	+
1363	lt-yel, 2.52	r/+	...	+	+	+	r	r
1364	wh	r	...	-	-/+	-/+	-	-
1365	yel hydr, 3.36	r	i	-	r	-	+	+
1366	wh	d/r	i	+	+	+	-	-
1367	wh	+	i	+	+	+	-	-
1368	viol hydr, 1.78	r	i	-	r/+	-/+	+	+
1369	wh hydr, 3.11	r	i	+	+	+	-	-
1370	cl gas, 3.708	d/i	d/i	-	-	-	-	-
1371	wh	+	+	+	+	+	+	+
1372	wh	+	+	+	+	+	+	+
1373	...	-	...	-	...	-	...	...
1374	wh, 6.162	psv/+	...	+	+	+	+	+
1375	red-viol, 2.61	-	i	-/+	+	+	-	-
1376	wh, 5.06	r	r	r	+	-	+	+
1377	wh hydr	r	i	-	+	-	+	+
1378	yel, 5.02	+	...	+	+	+	+	+
1379	wh hydr	i	...	-/+	i/+	-/+	i	i
1380	wh, 3.84	r	r	r	+	-	+	+
1381	wh	r	r	r	+	-	+	+
1382	wh, 5.94	i	i	-	-	-	-	-
1383	grn-grey, 5.63	r	r	-	+	-/+	+	+
1384	lt-grey, 4.77	i	i	-/+	-/+	-	-/+	-
1385	wh hydr	r	r	r	+	r	+	+
1386	wh, 6.51	-/+	+	+	+	+	-	-
1387	wh	i	...	+	+	+	-	-
1388	yel	+	...	+	+	+	+	+
1389	red-yel, 4.91	i/+	...	+	+	+	+	+
1390	wh, 3.60(2.80)	d	d	-	d/r	-	+	+
1391	wh hydr	r	...	-/+	+	-	+	+
1392	wh, 0.534	+	+	+	+	+	+	+
1393	wh, 2.55	i/+	i	+	+	+	+	+
1394	wh, 3.07	i	...	+	+	+	-	-
1395	wh, 1.40(1.38)	+	...	+	+	+	+	+
1396	wh	r	i	+	+	+	r	r
1397	wh, 3.46	r	r	r	-/+	-	-	-
1398	wh, 1.65	+	...	+	+	+	+	+
1399	wh hydr	r	r	r	-	-	r	-
1400	wh, 2.11	r	i	+	+	+	r	r
1401	wh, 2.12	r	i	-	-/+	-/+	-	-
1402	wh, 2.07	r	r	r	-/+	-	r	-

No.	Formula and name	$M_r$	Phase transition temperature
1403	LiCl·H <sub>2</sub> O	60.41	mp 93.5, -H <sub>2</sub> O 98
1404	LiClO <sub>3</sub> Lithium chlorate	90.39	mp 129, dec >270
1405	LiClO <sub>3</sub> ·0.5H <sub>2</sub> O	99.40	mp 65, -H <sub>2</sub> O 90
1406	LiClO <sub>4</sub> Lithium perchlorate	106.39	mp 236.7; dec 400
1407	LiClO <sub>4</sub> ·3H <sub>2</sub> O	160.44	-H <sub>2</sub> O 90-150
1408	Li <sub>2</sub> CrO <sub>4</sub> (·2H <sub>2</sub> O) Lithium chromate	129.87	-H <sub>2</sub> O 150
1409	Li <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> (·2H <sub>2</sub> O) Lithium dichromate	229.87	-H <sub>2</sub> O 130, dec 500
1410	LiD Lithium deuteride	8.96	mp 680
1411	LiF Lithium fluoride	25.94	mp 845.1; bp 1676
1412	Li <sub>2</sub> GeO <sub>3</sub> Lithium germanate	134.49	mp 1239
1413	LiH Lithium hydride	7.95	mp 680, dec 850
1414	Li(HCOO) Lithium formate	51.96	mp 273, dec 290-420
1415	Li(HCOO)·H <sub>2</sub> O	69.97	-H <sub>2</sub> O 94
1416	LiH <sub>2</sub> PO <sub>4</sub> Lithium dihydroorthophosphate	103.93	mp >100
1417	LiHSO <sub>4</sub> Lithium hydrosulfate	104.01	mp 104 ( <i>p</i> ), dec >150
1418	LiI Lithium iodide	133.85	mp 469, bp 1170 dec
1419	LiI·3H <sub>2</sub> O	187.89	mp 73, -H <sub>2</sub> O 300
1420	LiMnO <sub>4</sub> (·3H <sub>2</sub> O) Lithium permanganate	125.88	mp hydr 105, dec hydr 190
1421	Li <sub>2</sub> MoO <sub>4</sub> Lithium molybdate	173.82	mp 705
1422	LiN <sub>3</sub> Lithium azide	48.96	dec 115
1423	Li <sub>3</sub> N Trilithium nitride	34.83	mp 813 ( <i>p</i> )
1424	LiNH <sub>2</sub> Lithium amide	22.96	mp 374, dec >400
1425	Li <sub>2</sub> NH Lithium imide	28.90	dec >500
1426	LiNO <sub>2</sub> (·0.5H <sub>2</sub> O) Lithium nitrite	52.95	-H <sub>2</sub> O 100, mp 220
1427	LiNO <sub>3</sub> (·3H <sub>2</sub> O) Lithium nitrate	68.95	mp 253.0; >600 → LiNO <sub>2</sub>
1428	(LiNb)O <sub>3</sub> Lithium-niobium trioxide	147.84	mp 1253
1429	Li <sub>2</sub> O Lithium oxide	29.88	mp 1453, bp ca. 2600
1430	Li <sub>2</sub> O <sub>2</sub> Lithium peroxide	45.88	340 → Li <sub>2</sub> O
1431	LiOH (·H <sub>2</sub> O) Lithium hydroxide	23.95	mp 471, bp 925 ( <i>p</i> )
1432	Li <sub>3</sub> PO <sub>4</sub> (·0.5H <sub>2</sub> O) Lithium orthophosphate	115.79	mp 837
1433	Li <sub>3</sub> PO <sub>4</sub> ·2H <sub>2</sub> O	151.82	mp 100, dec 120
1434	Li <sub>2</sub> S Lithium sulfide	45.95	mp 950
1435	Li <sub>2</sub> SO <sub>3</sub> (·H <sub>2</sub> O) Lithium sulfite	93.95	-H <sub>2</sub> O 190, mp 455 dec
1436	Li <sub>2</sub> SO <sub>4</sub> (·H <sub>2</sub> O) Lithium sulfate	109.94	-H <sub>2</sub> O 130, mp 859
1437	Li(SO <sub>3</sub> F) Lithium fluorosulfonate	106.00	mp 360
1438	Li <sub>3</sub> Sb Trilithium stibide	142.57	mp >950
1439	Li <sub>2</sub> SiO <sub>3</sub> Lithium metasilicate	89.97	mp 1202
1440	Li <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> Lithium pentaoxodisilicate <sup>(iv)</sup>	150.05	mp 1033
1441	Li <sub>4</sub> SiO <sub>4</sub> Lithium orthosilicate	119.85	mp 1225 dec
1442	(LiTa)O <sub>3</sub> Lithium-tantalum trioxide	235.89	mp 1650
1443	Li <sub>2</sub> WO <sub>4</sub> Lithium wolframate	261.73	mp 740
<b>1444</b>	<b>Lr Lawrencium</b>	260.105	...
<b>1445</b>	<b>Lu Lutetium</b>	174.967	mp 1663, bp 3412
1446	LuBr <sub>3</sub> Lutetium <sup>(III)</sup> bromide	414.68	mp 960, bp 1410
1447	Lu <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Lutetium <sup>(III)</sup> oxalate	613.99	hydr >600 → Lu <sub>2</sub> O <sub>3</sub>
1448	LuCl <sub>3</sub> Lutetium <sup>(III)</sup> chloride	281.33	mp 925, bp 1420
1449	LuF <sub>3</sub> Lutetium <sup>(III)</sup> fluoride	231.96	mp 1184, bp 2200

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1403	wh, 1.78	r	r	r	-	-	r	-
1404	wh, 1.12	r	r	-/+	r/+	-	-	-
1405	wh	r	r	-/+	r/+	-	-	-
1406	wh, 2.43	r	r	-	-	r	-	-
1407	wh, 1.84	r	r	-	-	r	-	-
1408	yel	r	i	+	+	+	r	r
1409	red-orange, 2.34	r	i	r/+	r	r	+	+
1410	wh, 0.82	+	+	+	+	+	+	+
1411	wh, 2.64	d	i	i	-/+	-	-	i
1412	wh, 3.53	d	...	+	+	+	-/+	-
1413	wh, 0.82	+	+	+	+	+	+	+
1414	wh, 1.46	r	d	r	-/+	-/+	-	-
1415	wh	r	d	r	-/+	-/+	-	-
1416	wh, 2.46	r	i	r	r	r	+	+
1417	wh, 2.12	r	i	-	r	-	+	+
1418	wh, 4.06	r	r	r	r/+	r/+	r	r
1419	wh, 3.48	r	r	r	r/+	r/+	r	r
1420	viol hydr, 2.06	r	+	r/+	r	r	r	r/+
1421	wh, 2.66	r	i	+	+	+	-	-
1422	wh, 1.61	r	r	+	+	+	-	-
1423	dk-red, 1.28	+	...	+	+	+	+	+
1424	wh, 1.18	r/+	d/+	+	+	+	+	+
1425	wh, 1.48	+	d	+	+	+	+	+
1426	wh hydr, 1.62	r	r	-/+	-/+	-/+	-	-
1427	wh, 2.38	r	r	r	r	r/i	r	r
1428	wh	-	...	-/+	+	-/+	-	-
1429	wh, 2.01	+	...	+	+	+	+	+
1430	wh, 2.36	+	...	+	+	+	+	+
1431	wh, 1.46(1.51)	r	d	+	+	+	r	r
1432	wh, 2.54	d	...	r	r	r	-	-
1433	wh, 1.65	d	...	r	r	r	-	-
1434	lt-yel, 1.66	r	r	+	+	+	r	r
1435	wh	r	i	+	+	+	-	-
1436	wh, 2.22(2.06)	r	d	-	r	-	r	-
1437	wh	r/+	r	-/+	-/+	-/+	-/+	...
1438	dk-grey, 3.2	+	...	+	+	+	+	+
1439	wh, 2.52	i/+	...	+	+	+	-	-
1440	wh	i	...	+	+	+	-/+	-
1441	wh, 2.28	i/+	...	+	+	+	-	-
1442	wh	-	...	-/+	+	-/+	-	-
1443	wh, 3.71	r	i	+	+	+	-	-
1444	...	...	...	+	...	...	...	...
1445	wh, 9.835	psv/+	...	+	+	+	-	-
1446	wh	r	r	-	-/+	-	+	+
1447	wh hydr	i	i	i/+	-/+	-/+	i	-
1448	wh, 3.98	r	r	r	-	-	+	+
1449	wh, 8.29	i	i	-	i	-	i	-

No.	Formula and name	$M_r$	Phase transition temperature
1450	$\text{LuI}_3$ Lutetium(III) iodide	555.68	mp 1045, bp 1210
1451	$\text{Lu}(\text{NO}_3)_3 \cdot 4\text{H}_2\text{O}$ Lutetium(III) nitrate	360.98	dec hydr <i>t</i>
1452	$\text{Lu}_2\text{O}_3$ Lutetium(III) oxide	397.93	mp 2450
1453	$\text{Lu}(\text{OH})_3$ Lutetium(III) hydroxide	225.99	1050 $\rightarrow$ $\text{Lu}_2\text{O}_3$
1454	$\text{Lu}_2(\text{SO}_4)_3 \cdot 8\text{H}_2\text{O}$ Lutetium(III) sulfate	638.12	$-\text{H}_2\text{O}$ 650, dec $>850$
<b>1455</b>	<b>Md Mendeleevium</b>	258.099	...
<b>1456</b>	<b>Mg Magnesium</b>	24.305	mp 648, bp 1095
1457	$(\text{MgAl}_2)\text{O}_4$ Magnesium-dialuminum oxide	142.27	mp 2105
1458	$\text{Mg}_3\text{As}_2$ Trimagnesium diarsenide	222.76	mp 800
1459	$\text{MgB}_2$ Magnesium diboride	45.93	dec 1050
1460	$\text{Mg}_3(\text{BO}_3)_2$ Magnesium orthoborate	190.53	mp 1410
1461	$\text{Mg}_3\text{Bi}_2$ Trimagnesiumdibismuth	490.88	mp 821
1462	$\text{MgBr}_2$ Magnesium bromide	184.11	mp 710, bp ca. 1250
1463	$\text{MgBr}_2 \cdot 6\text{H}_2\text{O}$	292.20	mp 172.4; $-\text{H}_2\text{O}$ <i>t</i>
1464	$\text{Mg}(\text{BrO}_3)_2 \cdot 6\text{H}_2\text{O}$ Magnesium bromate	280.11	$-\text{H}_2\text{O}$ 200
1465	$\text{Mg}_2\text{C}_3$ Dimagnesium tricarbide	84.64	dec $>600$
1466	$[\text{Mg}(\text{C}_5\text{H}_5)_2]_2$ Bis(cyclopentadienyl)magnesium	154.50	mp 177, bp 221, dec $>300$
1467	$\text{Mg}(\text{CH}_3\text{COO})_2$ Magnesium acetate	142.39	mp 323 dec
1468	$\text{Mg}(\text{CH}_3\text{COO})_2 \cdot 4\text{H}_2\text{O}$	214.45	mp 80, $-\text{H}_2\text{O}$ 134
1469	$\text{MgCN}_2$ Magnesium cyanamide	64.33	dec 1370
1470	$\text{MgCO}_3 \cdot 5\text{H}_2\text{O}$ Magnesium carbonate	84.31	dec $>400$
1471	$\text{MgC}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$ Magnesium oxalate	112.32	dec hydr 150
1472	$\text{MgCl}_2$ Magnesium chloride	95.21	mp 714, bp 1370
1473	$\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$	203.30	mp 117, $-6\text{H}_2\text{O}$ 150
1474	$\text{Mg}(\text{ClO}_3)_2 \cdot 6\text{H}_2\text{O}$ Magnesium chlorate	191.21	mp hydr 35, dec hydr 120
1475	$\text{Mg}(\text{ClO}_4)_2$ Magnesium perchlorate	223.20	mp 246, dec 382
1476	$\text{Mg}(\text{ClO}_4)_2 \cdot 6\text{H}_2\text{O}$	331.29	mp 147, dec 180–190
1477	$\text{MgCrO}_4 \cdot 5\text{H}_2\text{O}$ Magnesium chromate	140.30	dec ca. 600
1478	$(\text{MgCr}_2)\text{O}_4$ Magnesium-chromium tetraoxide	192.29	mp 2350
1479	$\text{MgF}_2$ Magnesium fluoride	62.30	mp 1290, bp ca. 2270
1480	$(\text{MgFe}_2)\text{O}_4$ Magnesium-iron tetraoxide	200.00	mp 1750
1481	$\text{MgHAsO}_4 \cdot 7\text{H}_2\text{O}$ Magnesium hydroarsenate	164.23	$-\text{H}_2\text{O}$ 190
1482	$\text{MgHPO}_4 \cdot 3\text{H}_2\text{O}$ Magnesium hydroorthophosphate	120.28	$-\text{H}_2\text{O}$ 200
1483	$\text{MgI}_2 \cdot 8\text{H}_2\text{O}$ Magnesium iodide	278.11	mp 633, bp 1014
1484	$\text{Mg}(\text{IO}_3)_2 \cdot 4\text{H}_2\text{O}$ Magnesium iodate	374.11	$-\text{H}_2\text{O}$ 210
1485	$\text{Mg}_3\text{N}_2$ Trimagnesium dinitride	100.93	dec 1500
1486	$\text{MgNH}_4\text{AsO}_4 \cdot 6\text{H}_2\text{O}$ Magnesium-ammonium arsenate	181.26	dec hydr 800 ( $\rightarrow \text{Mg}_2\text{P}_2\text{O}_7$ )
1487	$\text{MgNH}_4\text{PO}_4 \cdot 6\text{H}_2\text{O}$ Magnesium-ammonium orthophosphate	137.31	<i>t</i> $\rightarrow \text{Mg}_2\text{P}_2\text{O}_7$
1488	$\text{Mg}(\text{NH}_4)_2(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$ Magnesium-diammonium sulfate	252.51	mp hydr ca. 120, dec 250
1489	$\text{Mg}(\text{NO}_3)_2$ Magnesium nitrate	148.31	$>300 \rightarrow \text{MgO}$
1490	$\text{Mg}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$	256.40	mp 89.9
1491	$\text{MgO}$ Magnesium oxide	40.30	mp 2825, bp 3600
1492	$\text{Mg}(\text{OH})_2$ Magnesium hydroxide	58.32	$>480 \rightarrow \text{MgO}$
1493	$\text{Mg}_3\text{P}_2$ Trimagnesium diphosphide	134.86	dec $>1000$

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1450	brn	r	r	-	-/+	-/+	+	+
1451	wh hydr	r	r	-	-	r	+	+
1452	wh, 9.42	-/+	...	+	+	+	-	-
1453	wh	i	...	+	+	+	-	-
1454	wh hydr, 3.33	r/d	...	-	r	-	+	+
1455	...	...	...	...	...	...	...	...
1456	wh, 1.737	psv/+	...	+	+/psv	+	-	-
1457	wh, 3.55	-	i	-	-/+	-	-/+	-
1458	red-brn, 3.15	+	...	+	+	+	+	+
1459	blk	-/+	...	+	+	+	-	-
1460	wh, 2.99	i	...	+	+	+	-/+	-
1461	grey, 5.95	-	-	-/+	-	-/+	-/+	-
1462	wh, 3.72	r	r	-	-/+	-	+	+
1463	wh, 2.00	r	r	-	-/+	-	+	+
1464	wh hydr, 2.29	r	i	-/+	-/+	-/+	+	+
1465	lt-grey	+	-	+	+	+	+	+
1466	wh	+	r	-	+	+	+	+
1467	wh, 1.42	r	r	r	-	-	+	+
1468	wh, 1.45	r	r	r	-	-	+	+
1469	wh	+	i	+	+	+	+	+
1470	wh, 3.04	d/+	...	+	+	+	-	-
1471	wh hydr, 2.45	d	...	-/+	-/+	-/+	d	d
1472	wh, 2.32	r	r	r	-/+	-	+	+
1473	wh, 1.60	r	r	r	-/+	-	+	+
1474	wh hydr, 1.80	r	r	-	r	-	+	+
1475	wh, 2.21	r	r	-	-	-	+	+
1476	wh, 1.97	r	r	-	-	-	+	+
1477	yel hydr, 1.70	r	...	+	+	+	+	+
1478	dk-grn, 4.43	-	...	-	-/+	-	-	-
1479	wh, 3.177	d	i	d/r	d/+	d/r	-	-
1480	blk-brn, 4.52	-	...	+	-/+	-/+	-	-
1481	wh hydr, 1.94	d	...	-	-/+	-/+	+	+
1482	wh hydr, 2.10	d	...	-/+	-/+	-/+	+	+
1483	wh, 4.43	r	r	-	-/+	-/+	+	+
1484	wh hydr, 3.3	r	...	-/+	-	-	+	-/+
1485	yel-grn, 2.71	+	...	+	+	+	+	+
1486	wh hydr, 1.93	d	i	r	r	r	-	-
1487	wh hydr, 1.71	d	i	+	+	+	-	-
1488	wh hydr, 1.72	r	i	-	r	-	+	+
1489	wh	r	r	r	r	r	+	+
1490	wh, 1.64	r	r	r	r	r	+	+
1491	wh, 3.62	-	i	+	+	+	-	-
1492	wh, 2.39	i	...	+	+	+	-	-
1493	yel-grn, 2.05	+	i	+	-/+	-/+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1494	$\text{Mg}(\text{PH}_2\text{O}_2)_2 \cdot (6\text{H}_2\text{O})$ Magnesium phosphinate	154.28	$-\text{H}_2\text{O}$ 180
1495	$\text{Mg}_2\text{P}_2\text{O}_7$ Magnesium diphosphate	222.55	mp 1395
1496	$\text{Mg}_3(\text{PO}_4)_2 \cdot (8\text{H}_2\text{O})$ Magnesium orthophosphate	262.86	$-\text{H}_2\text{O}$ 400, mp 1357
1497	$\text{MgS}$ Magnesium sulfide	56.37	mp 2000 dec
1498	$\text{MgSO}_3 \cdot (6\text{H}_2\text{O})$ Magnesium sulfite	104.37	$-\text{H}_2\text{O}$ 200, dec $t$
1499	$\text{MgSO}_4 \cdot (\text{H}_2\text{O})$ Magnesium sulfate	120.37	mp 1137, dec 1168
1500	$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$	246.47	mp 54, $-\text{H}_2\text{O}$ 200
1501	$\text{Mg}(\text{SO}_3\text{S}) \cdot (6\text{H}_2\text{O})$ Magnesium thiosulfate	136.43	$-\text{H}_2\text{O}$ >240
1502	$\text{Mg}_3\text{Sb}_2$ Trimagnesiumdiantimony	316.42	mp 1250
1503	$\text{Mg}_2\text{Si}$ Dimagnesium silicide	76.70	mp 1085
1504	$\text{Mg}_2\text{SiO}_4$ Magnesium orthosilicate	140.69	mp 1890
1505	$\text{MgWO}_4$ Magnesium wolframate	272.15	mp 1360
1506	<b>Mn Manganese</b>	54.938	mp 1245, bp 2080
1507	$(\text{MnAl}_2)_4\text{O}_4$ Manganese-dialuminum tetraoxide	172.90	mp 1560
1508	$\text{MnAs}$ Manganese monoarsenide	129.86	mp 936
1509	$\text{MnB}_2$ Manganese diboride	76.56	mp 1990
1510	$\text{MnBr}_2 \cdot (4\text{H}_2\text{O})$ Manganese(II) bromide	214.75	mp 698
1511	$\text{Mn}_{3+x}\text{C}$ Trimanganese carbide	176.83	mp 1520
1512	$[\text{Mn}(\text{C}_5\text{H}_5)_2]$ Bis(cyclopentadienyl)manganese	185.13	mp 173
1513	$\text{Mn}(\text{CH}_3\text{COO})_2 \cdot (4\text{H}_2\text{O})$ Manganese(II) acetate	173.03	mp hydr 80, dec hydr $t$
1514	$\text{MnCO}_3$ Manganese(II) carbonate	114.95	dec 100–300
1515	$\text{MnC}_2\text{O}_4 \cdot (2\text{H}_2\text{O})$ Manganese(II) oxalate	142.96	$-\text{H}_2\text{O}$ 100
1516	$[\text{Mn}_2(\text{CO})_{10}]$ Decacarbonyldimanganese	389.98	mp 154 ( $p$ ), dec >110
1517	$[\text{Mn}(\text{CO})_5\text{Br}]$ Pentacarbonylbromomanganese	274.89	>65 $\rightarrow$ $[\text{Mn}_2(\text{CO})_{10}]$
1518	$[\text{Mn}(\text{CO})_3\text{C}_5\text{H}_5]$ Tricarbonyl(cyclopentadienyl)manganese	204.06	mp 77
1519	$[\text{Mn}(\text{CO})_5\text{Cl}]$ Pentacarbonylchloromanganese	230.44	120 $\rightarrow$ $[\text{Mn}_2(\text{CO})_{10}]$
1520	$[\text{Mn}(\text{CO})_5\text{I}]$ Pentacarbonyliodomanganese	321.89	>118 $\rightarrow$ $[\text{Mn}_2(\text{CO})_{10}]$
1521	$[\text{Mn}(\text{CO})_4\text{NO}]$ Tetracarbonylnitrosylmanganese	196.98	mp ca. 1, subl 25
1522	$\text{MnCl}_2$ Manganese(II) chloride	125.84	mp 650, bp 1231
1523	$\text{MnCl}_2 \cdot 4\text{H}_2\text{O}$	197.90	mp 58, $-\text{H}_2\text{O}$ 198
1524	$(\text{Mn}_2\text{Cu})\text{O}_4$ Dimanganese-copper tetraoxide	237.42	mp >1500
1525	$\text{MnF}_2 \cdot (4\text{H}_2\text{O})$ Manganese(II) fluoride	92.93	mp 856, bp 1640
1526	$\text{MnF}_3$ Manganese(III) fluoride	111.93	600 $\rightarrow$ $\text{MnF}_2$
1527	$(\text{MnFe}_2)\text{O}_4$ Manganese-diiron tetraoxide	230.63	mp 1570, dec >1800
1528	$[\text{MnH}(\text{CO})_5]$ Hydropentacarbonylmanganese	196.00	mp $-25$ , dec 100–150
1529	$\text{MnI}_2$ Manganese(II) iodide	308.75	mp 638
1530	$(\text{Mn}^{\text{II}}\text{Mn}_2^{\text{III}})\text{O}_4$ Manganese(II)-dimanganese(III) tetraoxide	228.81	mp 1705
1531	$\text{Mn}(\text{NH}_4)_2(\text{SO}_4)_2 \cdot (6\text{H}_2\text{O})$ Manganese-diammonium sulfate	283.14	$-\text{H}_2\text{O}$ 180 dec
1532	$\text{Mn}(\text{NO}_3)_3 \cdot (6\text{H}_2\text{O})$ Manganese(III) nitrate	178.95	mp hydr 25.3; dec hydr >195
1533	$\text{MnO}_{1+x}$ ( $0 \leq x \leq 0.13$ ) Manganese(II) oxide	70.94	mp 1780
1534	$\text{MnO}_{2-x} \cdot (n\text{H}_2\text{O})$ Manganese(IV) oxide	86.94	$-\text{H}_2\text{O}$ 250, dec >535
1535	$\text{Mn}_2\text{O}_3$ Manganese(III) oxide	157.87	940 $\rightarrow$ $(\text{Mn}^{\text{II}}\text{Mn}_2^{\text{III}})\text{O}_4$
1536	$\text{Mn}_2\text{O}_3 \cdot n\text{H}_2\text{O}$	—	100 $\rightarrow$ $\text{MnO}(\text{OH})$

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1494	wh hydr, 1.59	r	i	-	+	+	+	+
1495	wh, 2.56	i	i	+	+	+	-	-
1496	wh, 2.41(1.64)	i	...	r	r	r	i	-
1497	wh, 2.86	i/+	...	+	+	+	i/+	-
1498	wh hydr, 1.73	d	i	+	+	+	d	-
1499	wh, 2.66(2.57)	r	d	-	r	-	+	+
1500	wh, 1.68	r	d	-	r	-	+	+
1501	wh hydr, 1.82	r	i	-/+	-/+	-/+	+	+
1502	grey, 4.09	-	...	-/+	-/+	-/+	-/+	-
1503	dk-sk-bl, 1.94	-/+	...	+	+	+	-/+	-
1504	wh, 3.22	i	...	-/+	-/+	-/+	-	-
1505	wh, 5.66	i	i	+	+	+	-	-
1506	lt-grey, 7.44	psv/+	...	+	+	+	-	-
1507	red-blk, 4.04	-	i	-	-/+	-	-/+	-
1508	blk, 6.18	-	...	+	+	+	-	-
1509	grey-viol, 6.9	+	...	+	+	+	+	+
1510	pink, 4.39	r	r	-	-/+	-	+	+
1511	grey-blk, 6.89	+	...	+	+	+	+	+
1512	brn-red	-/+	r	-	-/+	+	-	-
1513	lt-pink hydr	r	r	-	-	-	+	+
1514	red-pink, 3.70	i/+	i	+	+	+	i	i
1515	lt-pink hydr	d	...	-	-/+	-/+	-/+	-
1516	yel, 1.75	-	r	-	-/+	-/+	+	-
1517	orange	-	+	-/+	-/+	-/+	-/+	-
1518	yel	-/+	r	-/+	-/+	-/+	-/+	-
1519	lt-yel	-	+	-/+	-/+	-/+	-/+	...
1520	red	-	+	-/+	-/+	-/+	-/+	...
1521	dk-red lq	+	∞	+	+	+	+	+
1522	pink, 2.98	r	r	r	-/+	-	+	+
1523	lt-pink, 2.01	r	r	r	-/+	-	+	+
1524	brn-blk, 5.01	-	i	-	-/+	-	-/+	-
1525	pink, 3.98	r/+	i	r	r/+	r	+	+
1526	red, 3.54	+	r	+	+	+	+	+
1527	dk-brn, 4.87	-	...	-/+	-/+	-	-/+	-
1528	cl lq	+	r	+	+	+	+	+
1529	pink, 5.01	r	r	-	-/+	-/+	+	+
1530	brn-blk, 4.84	-	...	+	-/+	-/+	-	-
1531	lt-pink hydr, 1.83	r	i	-	r	-	+	+
1532	lt-pink hydr, 1.82	r	r	r	-	r	+	+
1533	grey-grn, 5.18	-	...	+	+	+	-	-
1534	blk-brn, 5.03	-	...	-/+	-/+	-	-	-
1535	brn, 4.90	-	...	+	+	+	-	-
1536	brn	i	...	+	+	+	i	i

No.	Formula and name	$M_r$	Phase transition temperature
1537	$Mn_2O_7$ Manganese(VII) oxide	221.87	mp 5.9; dec >55 $\rightarrow Mn_2O_3$
1538	$Mn(OH)_2$ Manganese(II) hydroxide	88.95	>200 $\rightarrow MnO$
1539	$MnO(OH)$ Manganese metahydroxide	87.94	250 $\rightarrow Mn_2O_3$
1540	$MnP$ Manganese monophosphide	85.91	mp 1147
1541	$Mn_2P$ Dimanganese phosphide	140.85	mp 1327
1542	$Mn_3P$ Trimanganese phosphide	195.79	mp 1105 dec
1543	$Mn_3P_2$ Trimanganese diphosphide	226.76	dec $t$
1544	$Mn_2P_2O_7$ Manganese(II) diphosphate	283.82	mp 1196
1545	$Mn_3(PO_4)_2 \cdot (3H_2O)$ Manganese(II) orthophosphate	354.75	$-H_2O$ 320
1546	$MnS$ Manganese(II) sulfide	87.00	mp 1615
1547	$MnS \cdot nH_2O$	—	$-H_2O$ 175
1548	$Mn(S_2)$ Manganese(II) disulfide(2-)	119.07	dec >800
1549	$MnSO_4 \cdot (H_2O)$ Manganese(II) sulfate	151.00	mp 700, dec >850
1550	$MnSO_4 \cdot 5H_2O$	241.08	$-H_2O$ 250
1551	$MnSO_4 \cdot 7H_2O$	277.11	$-H_2O$ 280
1552	$Mn(SO_4)_2$ Manganese(IV) sulfate	247.06	dec $t$
1553	$Mn_2(SO_4)_3 \cdot (H_2SO_4 \cdot 6H_2O)$ Manganese(III) sulfate	398.06	dec hydr 160-300
1554	$MnSe$ Manganese selenide	133.90	mp 1510
1555	$MnSi$ Manganese monosilicide	83.02	mp 1270
1556	$Mn_2Si$ Dimanganese silicide	137.96	mp 1316
1557	$MnSiO_3$ Manganese(II) metasilicate	131.02	mp 1323
1558	$Mn_2SiO_4$ Manganese(II) orthosilicate	201.96	mp 1327
1559	$MnWO_4$ Manganese(II) wolframate	302.78	mp >1400
1560	$(Mn_2Zn)O_4$ Dimanganese-zinc tetraoxide	239.26	mp >2000
1561	<b>Mo Molybdenum</b>	95.94	mp 2620, bp 4630
1562	$MoB$ Molybdenum monoboride	106.75	mp 2550
1563	$Mo_2B$ Dimolybdenum boride	202.69	mp 2270 dec
1564	$Mo_2B_5$ Dimolybdenum pentaboride	245.94	mp 2200 dec
1565	$MoBr_2$ Molybdenum(II) bromide	255.75	dec >700
1566	$MoBr_3$ Molybdenum(III) bromide	335.65	>500 $\rightarrow MoBr_2$
1567	$MoBr_4$ Molybdenum(IV) bromide	415.56	>110 $\rightarrow MoBr_3$
1568	$MoC$ Molybdenum monocarbide	107.95	mp 2570
1569	$Mo_2C$ Dimolybdenum carbide	203.89	mp 2690
1570	$[Mo(CN)_8] \cdot K_4 \cdot (2H_2O)$ Potassium octacyanomolybdate(IV)	460.48	$-H_2O$ 105, dec $t$
1571	$[Mo(CO)_6]$ Hexacarbonylmolybdenum	264.00	mp 148, bp 155 dec
1572	$[Mo_2(CO)_4(C_5H_5)_2]$ Tetracarbonylbis(cyclopentadienyl)dimolybdenum	434.11	mp 215-7 dec ( $\rightarrow Mo$ )
1573	$MoCl_2$ Molybdenum(II) chloride	166.85	700 $\rightarrow Mo, MoCl_5$
1574	$MoCl_3$ Molybdenum(III) chloride	202.30	410 $\rightarrow MoCl_2, MoCl_4$
1575	$MoCl_4$ Molybdenum(IV) chloride	237.75	subl >180 dec
1576	$MoCl_5$ Molybdenum(V) chloride	273.21	mp 194, bp 268
1577	$MoCl_3N$ Molybdenum trichloride-nitride	216.31	subl 130
1578	$MoCl_2O_2$ Molybdenum dichloride-dioxide	198.84	mp 170
1579	$MoCl_3O$ Molybdenum trichloride-oxide	218.30	mp 308
1580	$MoCl_4O$ Molybdenum tetrachloride-oxide	253.75	mp 102
1581	$MoF_5$ Molybdenum(V) fluoride	190.93	mp 67, bp 214

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1537	dk-grn lq, 2.396 <sup>20</sup>	+	i	+	+	+	+	+
1538	wh, 3.26	i	i	+	+	+	i	-
1539	brn, 4.14	i	...	-/+	-/+	-/+	i	-
1540	dk-grey, 5.39	-/+	...	-/+	-/+	-/+	-/+	-
1541	dk-grey	-	...	-	-/+	-/+	-	-
1542	grey-blk	-	...	-	-	-/+	-	-
1543	dk-grey, 5.12	-	...	-	-	-/+	-	-
1544	brn-pink, 3.71	i	...	+	+	+	-	-
1545	lt-pink hydr, 3.10	d	...	+	+	+	-	-
1546	brn-blk, 3.99	i/+	r	+	+	+	i	i
1547	lt-pink hydr, 3.95	i/+	r	+	+	+	i	i
1548	blk, 3.46	i	i	+	+	+	-	-
1549	wh, 3.25	r	i	-	r	-	+	+
1550	pink, 2.38	r	i	-	r	-	+	+
1551	pink, 2.09	r	i	-	r	-	+	+
1552	blk	+	...	-	-	-	-	-
1553	grn, 3.24	+	...	+	r	-	+	+
1554	grey, 5.55	i	...	+	+	+	-	-
1555	grey, 5.90	-	...	-/+	-/+	-/+	-/+	-
1556	grey, 6.20	-	...	+	+	-/+	+	-
1557	pink, 3.72	i	...	-	-/+	-/+	-/+	-
1558	red, 4.1	i	...	-	-/+	-/+	-/+	-
1559	yel, 7.12	i	i	-/+	-/+	-/+	-	-
1560	dk-brn, 5.2	-	i	-	-/+	-	-/+	-
1561	lt-grey, 10.23	-	-	-/+	-/+	+	-	-
1562	grey, 8.65	-	i	-	-/+	-/+	-/+	-
1563	grey, 9.26	-	i	-	-/+	-/+	-/+	-
1564	grey, 7.12	-	i	-	-/+	-/+	-/+	-
1565	yel-brn, 4.88	i	r	+	+	+	+	+
1566	blk	i/+	d	-/+	-/+	-/+	+	+
1567	blk	+	r	+	+	+	+	+
1568	grey, 8.78	-	...	-/+	-/+	-/+	-	-
1569	dk-grey, 9.18	-	...	-	-/+	-/+	-	-
1570	yel hydr, 2.34	r	i	-/+	-/+	-/+	-	-
1571	wh, 1.96	-	d	-/+	-/+	-/+	-	-
1572	red-brn	-/+	r	-/+	-/+	-/+	-/+	...
1573	yel, 3.714	i	r	+	+	+	+	+
1574	dk-red, 3.58	i/+	d	-/+	-/+	-/+	+	+
1575	brn-blk	+	r	+	+	+	+	+
1576	blk-bl, 2.93	+	+	+	+	+	+	+
1577	red-brn	+	...	+	+	+	+	+
1578	lt-yel, 3.31	+	r	+	+	+	+	+
1579	brn-blk	+	r	+	+	+	+	+
1580	dk-grn	+	...	+	+	+	+	+
1581	yel	+	...	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1582	MoF <sub>6</sub> Molybdenum(vi) fluoride	209.93	mp 17.58; bp 33.88
1583	[MoF <sub>6</sub> ] <sub>4</sub> K <sub>3</sub> Potassium hexafluoromolybdate(III)	327.22	mp 734
1584	MoI <sub>2</sub> Molybdenum(II) iodide	349.75	mp 700
1585	MoI <sub>3</sub> Molybdenum(III) iodide	476.65	mp 900, <i>t</i> → MoI <sub>2</sub>
1586	MoI <sub>4</sub> Molybdenum(IV) iodide	603.56	mp 400, dec <i>t</i>
1587	MoO <sub>2</sub> Molybdenum(IV) oxide	127.94	dec 1800
1588	MoO <sub>3</sub> Molybdenum(VI) oxide	143.94	mp 795, <i>t</i> bp 1155
1589	MoO <sub>3</sub> ·H <sub>2</sub> O	161.95	−H <sub>2</sub> O 115
1590	MoO <sub>3</sub> ·2H <sub>2</sub> O	179.97	70 → MoO <sub>3</sub> ·H <sub>2</sub> O
1591	Mo(O)F <sub>4</sub> Molybdenum oxide-tetrafluoride	187.93	mp 97.2; bp 186
1592	MoO <sub>2</sub> F <sub>2</sub> Molybdenum dioxide-difluoride	165.93	subl 270
1593	Mo(OH) <sub>3</sub> Molybdenum(III) hydroxide	143.96	dec <i>t</i>
1594	Mo(OH) <sub>2</sub> Molybdenum oxide-dihydroxide	145.95	900 → MoO <sub>2</sub>
1595	MoO(OH) <sub>3</sub> Molybdenum oxide-trihydroxide	162.96	dec >800
1596	[Mo(PF <sub>6</sub> ) <sub>6</sub> ] Hexakis(trifluorophosphorus)molybdenum	623.75	mp 196
1597	MoS <sub>2</sub> Molybdenum(IV) sulfide	160.07	subl 450, mp ca. 2100
1598	MoS <sub>3</sub> Molybdenum(VI) sulfide	192.14	>300 → MoS <sub>2</sub>
1599	MoSe <sub>2</sub> Molybdenum(VI) selenide	253.86	dec 900
1600	MoSi <sub>2</sub> Molybdenum disilicide	152.11	mp ca. 2030
1601	<b>N<sub>2</sub> Dinitrogen</b>	28.014	mp −210.0; bp −195.802
1602	ND <sub>3</sub> Deuterioammonia	20.05	mp −74.36; bp −31.04
1603	ND <sub>4</sub> Cl Tetradeuterioammonium chloride	57.52	mp >300
1604	NF <sub>3</sub> Nitrogen trifluoride	71.00	mp −206.78; bp −129
1605	<i>trans</i> -N <sub>2</sub> F <sub>2</sub> Dinitrogen difluoride	66.01	mp −172, bp −111.4
1606	<i>cis</i> -N <sub>2</sub> F <sub>2</sub>	66.01	mp < −195, bp −105.7
1607	N <sub>2</sub> F <sub>4</sub> Dinitrogen tetrafluoride	104.01	mp −161.5; bp −74.1
1608	NH <sub>3</sub> Ammonia	17.03	mp −77.75; bp −33.4
1609	NH <sub>3</sub> ·0.5H <sub>2</sub> O	26.04	mp −78.2 dec 80–100
1610	NH <sub>3</sub> ·H <sub>2</sub> O	35.05	mp −77 dec
1611	NH <sub>3</sub> ·2H <sub>2</sub> O	53.06	mp −97, dec <i>t</i>
1612	N <sub>2</sub> H <sub>4</sub> Hydrazine	32.05	mp 1.5; bp 113.5
1613	N <sub>2</sub> H <sub>4</sub> ·H <sub>2</sub> O	50.06	mp −51.6; bp 120.1
1614	(NH <sub>4</sub> ) <sub>2</sub> B <sub>4</sub> O <sub>7</sub> (·4H <sub>2</sub> O) Ammonium tetraborate	191.32	−H <sub>2</sub> O 87, dec 190
1615	NH <sub>4</sub> Br Ammonium bromide	97.94	subl >394 dec
1616	NH <sub>4</sub> (CH <sub>3</sub> COO) Ammonium acetate	77.08	mp 114 dec
1617	N <sub>2</sub> H <sub>5</sub> (CH <sub>3</sub> COO) Hydrazinium(1+) acetate	92.10	mp 101
1618	NH <sub>4</sub> CN Ammonium cyanide	44.06	dec 36
1619	(NH <sub>4</sub> ) <sub>2</sub> CO <sub>3</sub> Ammonium carbonate	96.09	dec 20–58
1620	(NH <sub>4</sub> ) <sub>2</sub> C <sub>2</sub> O <sub>4</sub> (·H <sub>2</sub> O) Ammonium oxalate	124.10	dec hydr >120
1621	NH <sub>2</sub> Cl Chloramine	51.48	mp −66, dec >−40
1622	NH <sub>4</sub> Cl Ammonium chloride	53.49	subl >337.8 dec
1623	N <sub>2</sub> H <sub>5</sub> Cl Hydrazinium(1+) chloride	68.51	mp 89, dec 350
1624	N <sub>2</sub> H <sub>6</sub> Cl <sub>2</sub> Hydrazinium(2+) chloride	104.97	mp 198 dec
1625	NH <sub>4</sub> ClO <sub>3</sub> Ammonium chlorate	101.49	dec ca. 100
1626	NH <sub>4</sub> ClO <sub>4</sub> Ammonium perchlorate	117.49	dec 210–270
1627	N <sub>2</sub> H <sub>5</sub> ClO <sub>4</sub> (·0.5H <sub>2</sub> O) Hydrazinium(1+) perchlorate	132.50	mp hydr 142.4; dec 220
1628	(NH <sub>4</sub> ) <sub>2</sub> CrO <sub>4</sub> Ammonium chromate	152.07	mp 185 dec (→ Cr <sub>2</sub> O <sub>3</sub> )

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1582	cl lq, 2.543 <sup>19</sup>	+	r	+	+	+	+	+
1583	brn	r	...	-/+	-/+	-/+	+	...
1584	brn-blk, 5.28	i/+	i	+	+	+	+	+
1585	blk	+	i	-	-/+	-/+	+	...
1586	blk	+	...	+	+	+	+	+
1587	brn-viol, 6.47	-	...	-	-/+	+	-	-
1588	grn-wh, 4.69	+	...	+	+	+	+	+
1589	wh, 3.11	d	i	+	+	+	+	+
1590	yel, 3.12	d	i	+	+	+	+	+
1591	wh, 3.0	+	r	+	+	+	+	+
1592	wh, 3.49	+	r	+	+	+	+	+
1593	blk	i	i	-/+	-/+	-	i	-
1594	dk-grn	i	i	-/+	-/+	+	+	-
1595	brn	i	...	+	+	+	+	...
1596	wh	i/+	...	-	-/+	-/+	+	-
1597	grey-sk-bl, 4.68-4.75	-	i	-	-/+	-/+	-	-
1598	dk-brn	i	...	-/+	-/+	-/+	+	+
1599	bl-brn	-	i	-	-	+	-	-
1600	dk-grey, 6.31	-	...	-	-	-/+	-	-
1601	cl gas, 1.2505	i	i	-	-	-	-	-
1602	cl gas	r	r	+	+	+	+	+
1603	wh	r	r	r	r	r	r/+	r
1604	cl gas	i/+	i	-	-/+	-/+	-/+	-
1605	cl gas	d/+	...	-	-	-	-	-
1606	cl gas	d/+	...	-	-	-	-	-
1607	cl gas	i/+	i	-	-/+	-/+	-/+	-
1608	cl gas, 0.771	r	r	+	+	+	r	r
1609	wh	r	r	+	+	+	+	+
1610	wh	r	r	+	+	+	r	r
1611	wh	r	r	+	+	+	+	+
1612	cl lq, 1.012 <sup>15</sup>	∞	∞	+	+	+	r	r
1613	cl lq, 1.032 <sup>20</sup>	∞	r	+	+	+	r	r
1614	wh	r	i	+	+	+	r/+	r/+
1615	wh, 2.43	r	r	r	r/+	r	r/+	r
1616	wh, 1.07	r/+	r	-	-	-	-/+	r
1617	wh	r/+	r	-	-	-	-/+	r
1618	wh	r/+	r	-	-	-	-/+	r
1619	wh	r/+	i	+	+	+	-/+	r
1620	wh hydr, 1.50	r	d	-	-/+	-/+	-/+	r
1621	cl lq	r/+	r	+	+	+	+	...
1622	wh, 1.53	r	r	r	r	r	r/+	r
1623	wh	r	d	r/+	-/+	-/+	-/+	-
1624	wh, 1.42	r/+	d	r	-	-	-/+	-
1625	wh, 1.80	r	d	-/+	-	-	-/+	-
1626	wh, 1.95	r	d	-	-	-	-/+	-
1627	wh hydr, 1.94	r	r	-	-/+	-/+	-/+	-
1628	yel, 1.91	r	d	+	+	+	r	r

No.	Formula and name	$M_r$	Phase transition temperature
1629	$(\text{NH}_4)_2\text{Cr}_2\text{O}_7$ Ammonium dichromate	252.06	dec ca. 168–185
1630	$(\text{NH})\text{F}_2$ Difluoramine	53.01	mp -116.8; bp -23.6
1631	$\text{NH}_4\text{F}$ Ammonium fluoride	37.04	168 $\rightarrow$ $\text{NH}_4(\text{HF}_2)$
1632	$\text{NH}_4\text{HCO}_3$ Ammonium hydrocarbonate	79.06	dec 36–70
1633	$\text{NH}_4\text{HC}_2\text{O}_4$ (-0.5 $\text{H}_2\text{O}$ ) Ammonium hydrooxalate	107.07	mp 220 dec
1634	$\text{NH}_4(\text{HCOO})$ Ammonium formate	63.06	mp 119, dec 180
1635	$\text{NH}_4(\text{HF}_2)$ Ammonium hydrodifluoride	57.04	mp 126.2; dec 238
1636	$\text{NH}_4\text{H}(\text{PHO}_3)$ Ammonium hydrophosphonate	99.03	mp 123, dec 145
1637	$\text{NH}_4\text{H}_2\text{PO}_4$ Ammonium dihydroorthophosphate	115.03	mp 190 (p), dec 140
1638	$(\text{NH}_4)_2\text{HPO}_4$ Ammonium hydroorthophosphate	132.06	70 $\rightarrow$ $\text{NH}_4\text{H}_2\text{PO}_4$
1639	$\text{NH}_4\text{HS}$ Ammonium hydrosulfide	51.11	mp 120 (p), dec 20
1640	$\text{NH}_4\text{HSO}_3$ Ammonium hydrosulfite	99.11	dec 150
1641	$\text{NH}_4\text{HSO}_4$ Ammonium hydrosulfate	115.11	mp 251, bp 490
1642	$\text{NH}_4\text{I}$ Ammonium iodide	144.94	subl 404.7 dec
1643	$\text{NH}_4\text{IO}_3$ Ammonium iodate	192.94	dec 150
1644	$\text{NH}_4\text{IO}_4$ Ammonium periodate	208.94	dec t
1645	$\text{NH}_4\text{MnO}_4$ Ammonium permanganate	136.97	dec 60–110 ( $\rightarrow$ $\text{MnO}_2$ )
1646	$(\text{NH}_4)_6\text{Mo}_7\text{O}_{24}$ (-4 $\text{H}_2\text{O}$ ) Ammonium 24-oxohepta- molybdate(vi)	1163.79	- $\text{H}_2\text{O}$ 90, dec 150
1647	$\text{NH}_4\text{N}_3$ Ammonium azide	60.06	mp 160, dec t
1648	$\text{NH}_4\text{NCS}$ Ammonium thiocyanate	76.12	mp 149, dec 170
1649	$\text{NH}_4(\text{NH}_2\text{COO})$ Ammonium carbamate	78.07	subl 60; mp 133.5
1650	$\text{NH}_4\text{NO}_2$ Ammonium nitrite	64.04	dec >60
1651	$\text{NH}_4\text{NO}_3$ Ammonium nitrate	80.03	mp 169.6; dec 210
1652	$\text{N}_2\text{H}_5\text{NO}_3$ Hydrazinium(1+) nitrate	95.06	mp 70.7; dec >300
1653	$\text{N}_2\text{H}_6(\text{NO}_3)_2$ Hydrazinium(2+) nitrate	158.07	mp 104 dec
1654	$\text{NH}_4\text{OCN}$ Ammonium cyanate	60.06	60 $\rightarrow$ $\text{C}(\text{NH}_2)_2\text{O}$
1655	$\text{NH}_2\text{OH}$ Hydroxylamine	33.03	mp 32, dec >100
1656	$(\text{NH}_3\text{OH})\text{Cl}$ Hydroxylaminium chloride	69.49	mp 159 dec
1657	$(\text{NH}_3\text{OH})\text{HSO}_4$ Hydroxylaminium hydrosulfate	131.11	mp 57 dec
1658	$(\text{NH}_3\text{OH})\text{NO}_3$ Hydroxylaminium nitrate	96.04	mp 48, dec < 100
1659	$(\text{NH}_3\text{OH})_2\text{SO}_4$ Hydroxylaminium sulfate	164.14	mp 170 dec
1660	$\text{NH}_4(\text{PH}_2\text{O}_2)$ Ammonium phosphinate	83.03	mp 200, dec 240
1661	$\text{NH}_4\text{ReO}_4$ Ammonium perrhenate	268.24	400 $\rightarrow$ $\text{ReO}_2$
1662	$\text{N}_2\text{H}_6\text{SO}_4$ Hydrazinium(2+) sulfate	130.12	mp 254 dec
1663	$(\text{NH}_4)_2\text{SO}_3$ (- $\text{H}_2\text{O}$ ) Ammonium sulfite	116.14	dec hydr ca. 60
1664	$(\text{NH}_4)_2\text{SO}_4$ Ammonium sulfate	132.14	dec 235–357
1665	$(\text{NH}_4)_2\text{S}_2\text{O}_6(\text{O}_2)$ Ammonium peroxodisulfate	228.20	120 $\rightarrow$ $(\text{NH}_4)_2\text{S}_2\text{O}_7$
1666	$(\text{NH}_4)_2(\text{SO}_3\text{S})$ Ammonium thiosulfate	148.21	dec 150
1667	$(\text{NH}_4)_2\text{SeO}_4$ Ammonium selenate	179.03	dec >500
1668	$(\text{NH}_4)_2\text{TeO}_4$ Ammonium metatellurate	227.67	dec >575
1669	$(\text{NH}_4)_2\text{U}_2\text{O}_7$ Ammonium heptaoxidurionate(vi)	624.13	350 $\rightarrow$ $\text{UO}_3$
1670	$\text{NH}_4\text{VO}_3$ Ammonium metavanadate	116.98	100–150 $\rightarrow$ $\text{V}_2\text{O}_5$
1671	$(\text{NH}_4)_3\text{VS}_4$ Ammonium tetrathioorthovanadate	233.32	60–150 $\rightarrow$ $\text{V}_2\text{S}_5$
1672	$\text{NO}$ Nitrogen monoxide	30.01	mp -163.6; bp -151.6
1673	$\text{NO}_2$ Nitrogen dioxide	46.01	< 20.7 $\rightarrow$ $\text{N}_2\text{O}_4$ ; 20.7–135 $\text{NO}_2$ and $\text{N}_2\text{O}_4$

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1629	orange, 2.15	r	r	r/+	r	r	+	+
1630	cl gas	i/+	...	+	+	+	-/+	-
1631	wh, 1.01	r	r	-/+	-/+	-/+	-/+	r
1632	wh, 1.58	r/+	i	+	+	+	+	+
1633	wh	r	d	-	-/+	-/+	-/+	r
1634	wh, 1.27	r	r	-	-/+	-/+	-/+	r
1635	wh, 1.50	r	d	-	-/+	-/+	+	+
1636	wh	r	i	-	-/+	-/+	+	+
1637	wh, 1.80	r	i	r	r	r	+	+
1638	wh, 1.62	r	i	r	r	r	+	+
1639	wh, 1.17	r	r	-/+	-/+	-/+	+	+
1640	wh, 2.03	r	...	+	+	+	+	+
1641	wh, 1.78	r	d	-	-	-	+	+
1642	wh, 2.51	r	r	r	r/+	r/+	r/+	r
1643	wh, 3.31	r	i	r/+	r	r	-	-
1644	wh, 3.06	r	...	r	r	r	-	-
1645	viol, 2.22	r/+	+	r/+	r	r	-/+	+
1646	wh hydr, 2.50	r/+	i	+	+	+	+	-
1647	wh, 1.35	r	r	-	-/+	-/+	-/+	-
1648	wh, 1.31	r	r	-	-/+	-/+	-/+	-
1649	wh	+	...	+	+	+	+	+
1650	wh, 1.69	r/+	r	-/+	-/+	-/+	-/+	-
1651	wh, 1.72	r	r	r	r	r	r/+	r
1652	wh	r	d	-/+	-/+	-/+	-/+	-
1653	wh	r	d	-	-	-	-/+	-
1654	wh	r/+	d	-/+	-/+	-/+	-/+	-
1655	wh, 1.20	r	r	+	+	+	r	r
1656	wh, 1.67	r	r	r	-	-	-/+	-
1657	wh	r	d	-	r	-	-/+	+
1658	wh	r/+	r	-	-	r	-/+	-
1659	wh	r	i	-	r	-	-/+	-
1660	wh, 2.52	r	r	-	-/+	-/+	-/+	-
1661	wh, 3.97	r	r	-	-	-	-/+	-/+
1662	wh, 1.38	r	i	-	r	-	-/+	-
1663	wh hydr, 1.41	r	d	+	+	+	r	r
1664	wh, 1.77	r	i	-	r	-	r/+	r
1665	wh, 1.98	r/+	...	-/+	-/+	-/+	-	-
1666	wh, 1.68	r	i	+	+	+	-/+	-/+
1667	wh, 2.19	r	i	-	r	-	-/+	-
1668	wh, 3.01	+	-	+	+	+	+	+
1669	yel	i	...	-	-/+	-/+	-	-
1670	wh, 2.33	r	i	-/+	-/+	-/+	-/+	-
1671	dk-viol, 1.62	r/+	i	+	+	+	-	-
1672	cl gas, 1.3402	d	r	-	-	-	-	-
1673	brn gas, 2.0527	+	+	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1674	$N_2O$ Dinitrogen oxide	44.01	mp -90.9; bp -88.6
1675	$N_2O_3$ Dinitrogen trioxide	76.01	< -101 $\rightarrow$ (NO)NO <sub>2</sub> , bp -40, dec >5
1676	$N_2O_4$ Dinitrogen tetraoxide	92.01	mp -11.2; bp 20.7 dec; 20.7-135 NO <sub>2</sub> and N <sub>2</sub> O <sub>4</sub>
1677	$N_2O_5$ Dinitrogen pentaoxide	108.01	< 32 $\rightarrow$ (NO <sub>2</sub> )NO <sub>3</sub>
1678	(NO)Br Nitrosyl bromide	109.91	mp -55.5; dec >25
1679	(NO)Cl Nitrosyl chloride	65.46	mp -59.6; bp -5.4
1680	(NO <sub>2</sub> )Cl Nitroyl chloride	81.46	mp -141, bp -14.3
1681	(NO)ClO <sub>4</sub> ( $\cdot$ H <sub>2</sub> O) Nitrosyl perchlorate	129.46	dec >108
1682	(NO <sub>2</sub> )ClO Nitryl hypochlorite	94.76	mp -107, bp 22.3
1683	(NO)F Nitrosyl fluoride	49.00	mp -132.5; bp -59.9
1684	N(O)F <sub>3</sub> Nitrogen oxide-trifluoride	87.00	mp -160, bp -85
1685	(NO <sub>2</sub> )F Nitryl fluoride	65.00	mp -166.0; bp -72.4
1686	(NO)HSO <sub>4</sub> Nitrosyl hydrosulfate	127.08	mp 73.5 dec
1687	(NO <sub>2</sub> )NH <sub>2</sub> Nitryl amide	62.03	mp 75 dec
1688	(NO)NO <sub>2</sub> Nitrosyl nitrite	76.01	mp -101 ( $\rightarrow$ N <sub>2</sub> O <sub>3</sub> )
1689	(NO <sub>2</sub> )NO <sub>3</sub> Nitryl nitrate	108.01	subl 32, mp 41 ( <i>p</i> )
1690	(NO <sub>2</sub> )OF Nitryl fluorooxygenate(0)	81.00	mp -175, bp -45.0
1691	(NO) <sub>2</sub> S <sub>2</sub> O <sub>7</sub> Nitrosyl disulfate	236.14	mp 233, bp 360
<b>1692</b>	<b>Na Sodium</b>	22.990	mp 97.83; bp 886
1693	NaAlO <sub>2</sub> Sodium dioxoaluminate(III)	81.97	mp 1800
1694	NaAl(SO <sub>4</sub> ) <sub>2</sub> ( $\cdot$ 12H <sub>2</sub> O) Sodium-aluminum sulfate	242.10	mp hydr 62.5; dec 800
1695	NaAsO <sub>2</sub> Sodium metaarsenite	129.91	dec 550
1696	NaAsO <sub>3</sub> Sodium trioxoarsenate(V)	145.91	mp 615
1697	Na <sub>3</sub> AsO <sub>4</sub> ( $\cdot$ 12H <sub>2</sub> O) Sodium arsenate	207.89	mp hydr 86.3; -H <sub>2</sub> O 150
1698	Na <sub>7</sub> As <sub>2</sub> O <sub>7</sub> Sodium heptaoxodiarsenate(V)	353.80	mp 835, dec 1000
1699	Na <sub>3</sub> AsS <sub>4</sub> ( $\cdot$ 8H <sub>2</sub> O) Sodium tetrathioarsenate	272.16	dec 450-500
1700	NaBO <sub>2</sub> Sodium metaborate	65.80	mp 965, bp 1434
1701	NaBO <sub>2</sub> $\cdot$ 4H <sub>2</sub> O see [B(OH) <sub>4</sub> ] <sub>2</sub> Na (No. 256)		
1702	NaB <sub>5</sub> O <sub>8</sub> Sodium octaoxopentaborate(III)	205.04	mp 785 dec
1703	NaB <sub>5</sub> O <sub>8</sub> $\cdot$ 5H <sub>2</sub> O	295.11	mp 117, -H <sub>2</sub> O 350
1704	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> Sodium tetraborate	201.22	mp 741, bp 1575 dec
1705	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> ( $\cdot$ 4+5)H <sub>2</sub> O	-	-H <sub>2</sub> O 320-340
1706	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> $\cdot$ 10H <sub>2</sub> O	381.37	mp 64, -H <sub>2</sub> O 380
1707	NaBiO <sub>3</sub> Sodium bismuthate	279.97	...
1708	Na <sub>3</sub> BiO <sub>4</sub> Sodium tetraoxobismuthate(V)	341.95	...
1709	NaBr Sodium bromide	102.89	mp 755, bp 1390
1710	NaBr $\cdot$ 2H <sub>2</sub> O	138.92	-H <sub>2</sub> O 50.2
1711	NaBrO <sub>3</sub> Sodium bromate	150.89	mp 384 dec
1712	Na <sub>2</sub> C <sub>2</sub> Sodium acetylide	70.00	dec 800-825
1713	Na(CH <sub>3</sub> COO) Sodium acetate	82.03	mp 324
1714	Na(CH <sub>3</sub> COO) $\cdot$ 3H <sub>2</sub> O	136.08	mp 58, -H <sub>2</sub> O 120
1715	NaCN ( $\cdot$ 2H <sub>2</sub> O) Sodium cyanide	49.01	mp 563.7; bp 1497
1716	Na <sub>2</sub> CO <sub>3</sub> ( $\cdot$ H <sub>2</sub> O) Sodium carbonate	105.99	mp 851, dec >1000
1717	Na <sub>2</sub> CO <sub>3</sub> $\cdot$ 10H <sub>2</sub> O	286.14	mp 32.5; -H <sub>2</sub> O 100
1718	Na <sub>2</sub> C <sub>2</sub> O <sub>4</sub> Sodium oxalate	134.00	mp 260, dec >400

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1674	cl gas, 1.9778	d	r	—	-/+	—	—	—
1675	bl lq, 1.447 <sup>2</sup>	+	+	+	+	+	+	+
1676	yel lq, 1.491 <sup>0</sup>	+	+	+	+	+	+	+
1677	cl gas	+	+	+	+	+	+	+
1678	red gas	+	...	+	+	+	+	+
1679	orange-yel gas, 2.992	+	r	+	+	+	+	+
1680	cl gas, 2.57	+	+	+	+	+	+	+
1681	wh hydr, 2.17	+	+	+	+	+	+	+
1682	lt-yel lq	+	...	+	+	+	+	+
1683	cl gas, 2.335	+	...	+	+	+	+	+
1684	cl gas, lq 0.927- <sup>88</sup>	i	+	—	—	—	-/+	...
1685	cl gas, 2.90	+	+	+	+	+	+	+
1686	wh	+	...	+	+/-	+	+	+
1687	wh	+	+	+	+	+	+	+
1688	sk-bl	+	+	+	+	+	+	+
1689	wh, 1.64	+	+	+	+	+	+	+
1690	cl gas	+	+	+	+	+	+	+
1691	wh	r/+	i	+	+	+	+	+
1692	wh, 0.97	+	+	+	+	+	+	+
1693	wh	+	i	+	+	+	+	+
1694	wh hydr, 1.68	r	i	—	r	—	+	+
1695	wh, 1.87	+	d	+	+	+	+	+
1696	wh, 2.30	+	...	+	+	+	+	+
1697	wh, 2.84(1.76)	r	r	r	r	r	r	r
1698	wh, 2.21	+	...	+	+	+	+	+
1699	lt-yel	r/+	i	+	+	+	r/+	r/+
1700	wh, 2.34	+	i	+	+	+	+	+
1701	see No.256							
1702	wh	r	...	+	+	+	r/+	...
1703	wh	r	...	+	+	+	r/+	...
1704	wh, 2.37	r	r	+	+	+	r/+	...
1705	wh, 1.88-1.91	r	r	+	+	+	r/+	...
1706	wh, 1.73	r	r	+	+	+	r/+	...
1707	yel	i	+	i/+	i/+	+	i	i
1708	brn	i	+	i/+	i/+	+	i	i
1709	wh, 3.21	r	r	r	r/+	r	r	r
1710	wh, 2.18	r	r	r	r/+	r	r	r
1711	wh, 3.34	r	i	—	—	—	—	—
1712	wh, 1.60	+	...	+	+	+	+	+
1713	wh, 1.53	r	r	r	r	r	r	r
1714	wh, 1.45	r	r	r	r	r	r	r
1715	wh, 1.60	r	d	r	r	r	r	r
1716	wh, 2.54(2.26)	r	i	+	+	+	r	r
1717	wh, 1.45	r	i	+	+	+	r	r
1718	wh, 2.34	r	i	-/+	-/+	r/+	r	r

No.	Formula and name	$M_r$	Phase transition temperature
1719	$\text{Na}_2\text{CO}_3 \cdot \text{H}_2\text{O}$ Sodium carbonate-hydrocarbonate	189.99	dec 135
1720	$\text{Na}_2\text{Ca}(\text{CO}_3)_2 \cdot (5\text{H}_2\text{O})$ Disodium-calcium carbonate	206.07	$-\text{H}_2\text{O}$ 110–130
1721	$\text{Na}_2\text{Ca}(\text{SO}_4)_2 \cdot (4\text{H}_2\text{O})$ Disodium-calcium sulfate	278.18	$-\text{H}_2\text{O}$ >160
1722	$\text{NaCl} \cdot (2\text{H}_2\text{O})$ Sodium chloride	58.44	mp 800.8; bp 1465
1723	$\text{NaClO} \cdot (5\text{H}_2\text{O})$ Sodium hypochlorite	74.44	mp hydr 24.5; dec >30
1724	$\text{NaClO}_2 \cdot (3\text{H}_2\text{O})$ Sodium chlorite	90.44	$-\text{H}_2\text{O}$ 37.4; dec >180
1725	$\text{NaClO}_3$ Sodium chlorate	106.44	mp 262, dec 630
1726	$\text{NaClO}_4$ Sodium perchlorate	122.44	mp 482 dec
1727	$\text{NaClO}_4 \cdot \text{H}_2\text{O}$	140.45	mp 50.8; $-\text{H}_2\text{O}$ 130
1728	$\text{Na}_2\text{CrO}_4 \cdot (10\text{H}_2\text{O})$ Sodium chromate	161.97	mp hydr 19.9; mp 792
1729	$\text{Na}_2\text{Cr}_2\text{O}_7$ Sodium dichromate	261.97	mp 320, dec >400
1730	$\text{Na}_2\text{Cr}_2\text{O}_7 \cdot 2\text{H}_2\text{O}$	298.00	mp 110 dec
1731	$\text{NaCrS}_2$ Sodium dithiochromate(III)	139.12	dec >850
1732	$\text{NaF}$ Sodium fluoride	41.99	mp 997, bp 1700
1733	$\text{NaFeO}_2$ Sodium dioxoferrate(III)	110.84	mp 1350
1734	$\text{Na}_2\text{GeO}_3 \cdot (7\text{H}_2\text{O})$ Sodium germanate	166.59	mp hydr 83, mp 1070
1735	$\text{NaH}$ Sodium hydride	24.00	dec 400, mp 638 (p)
1736	$\text{NaH}_2\text{AsO}_4 \cdot (\text{H}_2\text{O})$ Sodium dihydroarsenate	163.92	$-\text{H}_2\text{O}$ 90, dec >230
1737	$\text{Na}_2\text{HAsO}_4 \cdot (12\text{H}_2\text{O})$ Sodium hydroarsenate	185.91	mp hydr 20, $-\text{H}_2\text{O}$ 100
1738	$\text{Na}_2\text{H}_2\text{As}_2\text{O}_7$ Disodium-dihydrogen heptaaxodiar-senate(v)	309.83	230 $\rightarrow$ $\text{NaAsO}_3$
1739	$\text{NaHCO}_3$ Sodium hydrocarbonate	84.01	dec 100–150
1740	$\text{Na}(\text{HCOO}) \cdot (2\text{H}_2\text{O})$ Sodium formate	68.01	mp 259, dec >300
1741	$\text{Na}(\text{HF}_2)$ Sodium hydrodifluoride	61.99	dec 270
1742	$\text{NaH}_4\text{IO}_6 \cdot (\text{H}_2\text{O})$ Sodium tetrahydroorthoperiodate	249.92	dec hydr 175
1743	$\text{Na}_3\text{H}_2\text{IO}_6$ Sodium dihydroorthoperiodate	293.88	mp 200 dec
1744	$\text{NaH}(\text{PHO}_3) \cdot (2.5\text{H}_2\text{O})$ Sodium hydrophosphonate	103.98	mp hydr 42, $-\text{H}_2\text{O}$ 100
1745	$\text{NaH}_2\text{PO}_4$ Sodium dihydroorthophosphate	119.98	>160 $\rightarrow$ $\text{Na}_2\text{H}_2\text{P}_2\text{O}_7$
1746	$\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$	137.99	mp 57.4; $-\text{H}_2\text{O}$ 100
1747	$\text{NaH}_2\text{PO}_4 \cdot 2\text{H}_2\text{O}$	156.01	mp 40.8 dec
1748	$\text{Na}_2\text{HPO}_4 \cdot (2\text{H}_2\text{O})$ Sodium hydroorthophosphate	141.96	$-\text{H}_2\text{O}$ 95, 300 $\rightarrow$ $\text{Na}_4\text{P}_2\text{O}_7$
1749	$\text{Na}_2\text{HPO}_4 \cdot 7\text{H}_2\text{O}$	268.06	48.1 $\rightarrow$ $\text{Na}_2\text{HPO}_4 \cdot 2\text{H}_2\text{O}$
1750	$\text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$	358.14	35.1 $\rightarrow$ $\text{Na}_2\text{HPO}_4 \cdot 7\text{H}_2\text{O}$
1751	$\text{Na}_2\text{H}_2\text{P}_3\text{O}_6 \cdot (6\text{H}_2\text{O})$ Disodium-dihydrogen hexaaxodiphosphate(IV)	205.94	$-\text{H}_2\text{O}$ 100, mp 250
1752	$\text{Na}_2\text{H}_2\text{P}_2\text{O}_7 \cdot (6\text{H}_2\text{O})$ Sodium dihydrodiphosphate	221.94	220 $\rightarrow$ $\text{NaPO}_3$
1753	$\text{NaHS} \cdot (n\text{H}_2\text{O})$ Sodium hydrosulfide	56.06	mp hydr 53, mp 350
1754	$\text{NaHSO}_3$ Sodium hydrosulfite	104.06	dec 25–100
1755	$\text{NaHSO}_4$ Sodium hydrosulfate	120.06	mp 186, dec 320
1756	$\text{NaHSO}_4 \cdot \text{H}_2\text{O}$	138.08	mp 58.5, dec 250
1757	$\text{NaHSO}_3 \cdot (\text{O}_2)$ Sodium hydroperoxosulfate	136.06	dec t
1758	$\text{NaHg}$ Sodiummercury	223.58	mp 212
1759	$\text{NaHg}_2$ Sodiumdimercury	424.17	mp 354
1760	$\text{NaHg}_4$ Sodiumtetramercury	825.35	mp 136 dec
1761	$\text{Na}_3\text{Hg}$ Trisodiummercury	269.56	mp 35 dec
1762	$\text{Na}_3\text{Hg}_2$ Trisodiumdimercury	470.15	mp 119 dec

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1719	wh, 2.15	r	d	+	+	+	+	+
1720	wh hydr, 2.04	d	...	+	+	+	-	-
1721	wh, 2.80	d	...	-	-	-	-/+	-
1722	wh, 2.17	r	d	r/i	r/i	r	r/i	r
1723	wh hydr, 1.10	r/+	...	r/+	-/+	+	-	-
1724	wh	r/+	r	+	+	+	-	-
1725	wh, 2.49	r	r	r/+	r	-	-	-
1726	wh	r	r	-	-	-	-	-
1727	wh, 2.02	r	r	-	-	-	-	-
1728	yel, 2.72(1.48)	r	d	+	+	+	r	r
1729	orange	r	d	r/+	r	r	+	+
1730	orange, 2.52	r	d	r/+	r	r	+	+
1731	dk-grey-grn	+	i	+	+	+	+	+
1732	wh, 2.56	r	d	r	r/+	r	r	r
1733	grn or brn, 4.05	+	...	+	+	+	+	...
1734	wh, 3.31	r	...	+	+	+	-/+	-
1735	wh, 1.36	+	+	+	+	+	+	+
1736	wh hydr, 2.53	r	...	r	r	r	+	+
1737	wh hydr, 1.72	r	i	r	r	r	+	+
1738	wh	+	...	+	+	+	+	+
1739	wh, 2.24	r/+	r	+	+	+	+	+
1740	wh, 1.92	r	d	r	r/+	r/+	r	r
1741	wh, 2.08	r	...	-/+	-/+	-/+	+	+
1742	wh hydr	d	...	-	-	-	+	+
1743	wh	d	...	-	-	-	+	+
1744	wh	r	...	r	r	r	+	+
1745	wh	r	i	r	r	r	+	+
1746	wh, 2.04	r	i	r	r	r	+	+
1747	wh, 1.91	r	i	r	r	r	+	+
1748	wh, 2.07	r	i	r	r	r	+	+
1749	wh, 1.68	r	i	r	r	r	+	+
1750	wh, 1.52	r	i	r	r	r	+	+
1751	wh, 1.85	r	i	-/+	-/+	-/+	+	+
1752	wh, 1.86(1.85)	r	...	+	+	+	+	+
1753	wh, 1.79	r/+	r	+	+	+	+	+
1754	wh, 1.48	r	d	+	+	+	+	+
1755	wh, 2.74	r	+	-	r	-	+	+
1756	wh, 2.10	r	+	-	r	-	+	+
1757	wh	r/+	...	+	+	+	-/+	...
1758	grey	+	+	+	+	+	+	+
1759	grey	+	+	+	+	+	+	+
1760	grey	+	+	+	+	+	+	+
1761	grey	+	+	+	+	+	+	+
1762	grey	+	+	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1763	$\text{Na}_5\text{Hg}_2$ Pentasodiumdimercury	516.13	mp 66 dec
1764	$\text{Na}_7\text{Hg}_3$ Heptasodiumoctamercury	1765.65	mp 222 dec
1765	$\text{NaI}$ Sodium iodide	149.90	mp 662, bp 1304
1766	$\text{NaI}\cdot 2\text{H}_2\text{O}$	185.92	mp 68.9 dec
1767	$\text{NaIO}_3 (\cdot \text{H}_2\text{O})$ Sodium iodate	197.89	mp 422, dec >500
1768	$\text{NaIO}_4 (\cdot 3\text{H}_2\text{O})$ Sodium metaperiodate	213.89	mp 300 dec
1769	$\text{Na}_5\text{IO}_6$ Sodium orthoperiodate	337.85	dec 800
1770	$\text{Na}_2\text{Mg}(\text{CO}_3)_2 (\cdot \text{H}_2\text{O})$ Disodium-magnesium carbonate	190.30	dec hydr >250
1771	$\text{Na}_2\text{Mg}(\text{SO}_4)_2 (\cdot 4\text{H}_2\text{O})$ Disodium-magnesium sulfate	166.42	dec hydr >240
1772	$\text{NaMnO}_4 (\cdot 3\text{H}_2\text{O})$ Sodium permanganate	141.92	dec hydr 170
1773	$\text{Na}_2\text{MnO}_4 (\cdot 10\text{H}_2\text{O})$ Sodium manganate	164.91	mp hydr 17
1774	$\text{Na}_2\text{MoO}_4 (\cdot 2\text{H}_2\text{O})$ Sodium molybdate	205.92	$-\text{H}_2\text{O}$ 150, mp 688
1775	$\text{NaN}_3$ Sodium azide	65.01	mp ca. 200, dec 300
1776	$\text{NaCNS} (\cdot \text{H}_2\text{O})$ Sodium thiocyanate	81.07	mp 307.5
1777	$\text{NaNH}_2$ Sodium amide	39.01	mp 210, bp 400
1778	$\text{NaNO}_2$ Sodium nitrite	69.00	mp 271, dec >520
1779	$\text{NaNO}_3$ Sodium nitrate	84.99	mp 306.5; dec 380
1780	$\text{Na}_2\text{N}_2\text{O}_2$ Sodium hyponitrite	105.99	dec 335
1781	$\text{Na}_2\text{N}_2\text{O}_4$ Tetrasodium tetraoxodinitrate	183.97	dec >100
1782	$(\text{NaNb})\text{O}_3$ Sodium-niobium trioxide	163.89	mp 1365
1783	$\text{NaO}_2$ Sodium superoxide	54.99	270 $\rightarrow$ $\text{Na}_2\text{O}_2$
1784	$\text{Na}_2\text{O}$ Sodium oxide	61.98	mp 1132
1785	$\text{Na}_2\text{O}_2$ Sodium peroxide	77.98	mp 596 (p), 675 $\rightarrow$ $\text{Na}_2\text{O}$
1786	$\text{NaOCN}$ Sodium cyanate	65.01	mp 550, dec >600
1787	$\text{NaOH}$ Sodium hydroxide	40.00	mp 321, bp 1390
1788	$\text{NaOH}\cdot\text{H}_2\text{O}$	58.01	mp 64.3; $-\text{H}_2\text{O}$ 100
1789	$\text{Na}(\text{PH}_2\text{O}_2) (\cdot \text{H}_2\text{O})$ Sodium phosphinate	87.98	dec hydr >200
1790	$\text{Na}_2(\text{PHO}_2) (\cdot 5\text{H}_2\text{O})$ Sodium phosphonate	125.96	mp hydr 53, dec hydr 120
1791	$\text{NaPO}_3$ Sodium metaphosphate	101.96	mp 627.6
1792	$\text{Na}_3\text{PO}_4$ Sodium orthophosphate	163.94	mp 1340
1793	$\text{Na}_3\text{PO}_4\cdot 12\text{H}_2\text{O}$	380.12	mp 73.4, $-\text{H}_2\text{O}$ 200
1794	$\text{Na}_4\text{P}_2^{\text{IV}}\text{O}_6 (\cdot 10\text{H}_2\text{O})$ Sodium hexaoxodiphosphate(IV)	249.90	dec hydr >250
1795	$\text{Na}_4\text{P}_2\text{O}_7 (\cdot 10\text{H}_2\text{O})$ Sodium diphosphate	265.90	mp hydr 79.5; mp 985
1796	$\text{Na}_5\text{P}_3\text{O}_{10} (\cdot 6\text{H}_2\text{O})$ Sodium decaoxotriphosphate(v)	367.86	$-\text{H}_2\text{O}$ 120, mp 692 dec
1797	$\text{Na}_2(\text{PO}_3\text{F})$ Sodium fluoroorthophosphate	143.95	mp ca. 625
1798	$\text{NaReO}_4$ Sodium perrhenate	273.19	mp 300, dec 410
1799	$\text{Na}_2\text{S} (\cdot 9\text{H}_2\text{O})$ Sodium sulfide	78.05	mp hydr 50, mp 1180
1800	$\text{Na}_2(\text{S}_2)$ Sodium disulfide(2-)	110.11	mp ca. 490
1801	$\text{Na}_2(\text{S}_4)$ Sodium tetrasulfide(2-)	174.24	mp 286 dec
1802	$\text{Na}_2(\text{S}_5)$ Sodium pentasulfide(2-)	206.31	mp 253
1803	$\text{Na}_2\text{SO}_3 (\cdot 7\text{H}_2\text{O})$ Sodium sulfite	126.04	$-\text{H}_2\text{O}$ 150, mp 911 (p)
1804	$\text{Na}_2\text{SO}_4$ Sodium sulfate	142.04	mp 884, bp 1430
1805	$\text{Na}_2\text{SO}_4\cdot 10\text{H}_2\text{O}$	322.19	mp 32.4 dec
1806	$\text{Na}_2\text{S}_2\text{O}_4 (\cdot 2\text{H}_2\text{O})$ Disodium tetraoxodisulfate	174.11	$-\text{H}_2\text{O}$ 50, dec >300
1807	$\text{Na}_2\text{S}_2\text{O}_5$ Disodium pentaoxodisulfate	190.11	dec 150

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> , H <sub>2</sub> O
1763	grey	+	+	+	+	+	+	+
1764	grey	+	+	+	+	+	+	+
1765	wh, 3.67	r	r	r	r/+	r/+	r	r
1766	wh, 2.45	r	r	r	r/+	r/+	r	r
1767	wh, 4.28	r	i	r/+	r	r	r	r
1768	wh, 3.87(3.22)	r	...	r	r	r	-	-
1769	wh	d/+	...	d	-	d	d	-
1770	wh hydr, 2.41	i	...	+	+	+	-/+	-
1771	wh hydr, 2.25	r	...	r	r	r	+	+
1772	red-viol hydr, 2.46	r	+	r/+	r/+	r/+	r/+	+
1773	grn hydr	+	...	+	+	+	-	-
1774	wh, 3.78(3.28)	r	...	+	+	+	-	-
1775	wh, 1.85	r	d	+	+	+	r	r
1776	wh, 1.73	r	r	r	r/+	r/+	r	r
1777	wh, 1.39	+	+	+	+	+	+	+
1778	wh, 2.17	r	r	r/+	r/+	r/+	r	r
1779	wh, 2.26	r	d	r	r	r	r	r
1780	wh, 2.47	r/+	i	+	+	+	-	-
1781	yel	+	...	+	+	+	+	+
1782	wh	-	...	-/+	+	-/+	-	-
1783	dk-yel, 2.21	+	+	+	+	+	+	+
1784	wh, 2.36	+	+	+	+	+	+	+
1785	wh, 2.60	+	+	+	+	+	+	+
1786	wh, 1.94	r/+	i	r/+	r/+	r/+	r	r
1787	wh, 2.13	r	r	+	+	+	r	r
1788	wh	r	r	+	+	+	r	r
1789	wh hydr	r	r	-	-/+	-/+	-	-
1790	wh hydr	r	d	-	-	-	-	-
1791	wh, 2.48	r/+	...	r/+	r/+	r/+	+	+
1792	wh, 2.54	r	i	r	r	r	r	r
1793	wh, 1.62	r	i	r	r	r	r	r
1794	wh, 1.82	r/+	...	+	+	+	+	+
1795	wh, 2.37(1.82)	r	i	+	+	+	-/+	-
1796	wh, 2.52(2.12)	r/+	...	+	+	+	-/+	...
1797	wh	r	...	+	+	+	+	+
1798	wh, 5.24	r	r	-	-	-	-	-
1799	wh, 1.86(1.43)	r/+	d	+	+	+	r	r
1800	lt-yel	r/+	d	+	+	+	-	-
1801	orange-yel, 2.08	r/+	r	+	+	+	-	-
1802	yel-brn, 2.08	r/+	r	+	+	+	-	-
1803	wh, 2.63(1.56)	r/+	d	+	+	+	r	r
1804	wh, 2.66	r	d	-	r	-	r	r
1805	wh, 1.46	r	i	-	r	-	r	r
1806	wh hydr	r/+	i	+	+	+	-	-
1807	wh, 1.48	r/+	d	-	-/+	-/+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1808	$\text{Na}_2\text{S}_2\text{O}_6 \cdot (2\text{H}_2\text{O})$ Sodium dithionate	206.11	$-\text{H}_2\text{O}$ 100, dec >200
1809	$\text{Na}_2\text{S}_2\text{O}_7$ Sodium disulfate	222.11	mp 405, dec 460
1810	$\text{Na}_2\text{S}_2\text{O}_8(\text{O}_2)$ Sodium peroxodisulfate	238.10	ca. 250 $\rightarrow$ $\text{Na}_2\text{S}_2\text{O}_7$
1811	$\text{Na}_2(\text{SO}_3\text{S})$ Sodium thiosulfate	158.11	dec 200
1812	$\text{Na}_2(\text{SO}_3\text{S}) \cdot 5\text{H}_2\text{O}$	248.18	mp hydr 48.5; $-\text{H}_2\text{O}$ 100
1813	$\text{Na}_3\text{Sb}$ Trisodium stibide	190.72	mp 1010
1814	$\text{NaSbO}_2 \cdot (3\text{H}_2\text{O})$ Sodium dioxostibate(III)	176.74	dec <i>t</i>
1815	$\text{Na}_2\text{Se}$ Sodium selenide	124.94	mp ca. 875
1816	$\text{Na}_2\text{SeO}_3 \cdot (5\text{H}_2\text{O})$ Sodium selenite	172.94	$-\text{H}_2\text{O}$ 40, mp 710 dec
1817	$\text{Na}_2\text{SeO}_4 \cdot (10\text{H}_2\text{O})$ Sodium selenate	188.94	mp 730
1818	$\text{Na}_2\text{SiO}_3$ Sodium metasilicate	122.06	mp 1089
1819	$\text{Na}_2\text{SiO}_3 \cdot 9\text{H}_2\text{O}$	284.20	mp 47, $-\text{H}_2\text{O}$ >100
1820	$\text{Na}_2\text{Si}_2\text{O}_5$ Sodium pentaoxodisilicate(IV)	182.15	mp 874
1821	$\text{Na}_4\text{SiO}_4$ Sodium orthosilicate	184.04	mp 1120 dec
1822	$\text{Na}_6\text{Si}_2\text{O}_7$ Sodium heptaoxodisilicate(IV)	306.11	mp 1122
1823	$\text{Na}_2\text{Te}$ Sodium telluride	173.58	mp 1035
1824	$\text{NaVO}_3 \cdot (2\text{H}_2\text{O})$ Sodium metavanadate	121.93	mp 630
1825	$\text{Na}_3\text{VO}_4 \cdot (10\text{H}_2\text{O})$ Sodium orthovanadate	183.91	mp 866
1826	$\text{Na}_4\text{V}_2\text{O}_7$ Sodium heptaoxodivanadate(V)	305.84	mp 654
1827	$\text{Na}_2\text{WO}_4 \cdot (\text{H}_2\text{O})$ Sodium wolframate	293.83	$-\text{H}_2\text{O}$ 150, mp 698
1828	$\text{Na}_6\text{W}_7\text{O}_{24} \cdot (16\text{H}_2\text{O})$ Sodium 24-oxoheptawolframate(VI)	1808.87	$-\text{H}_2\text{O}$ 300
<b>1829</b>	<b>Nb Niobium</b>	92.906	mp 2470, bp 4927
1830	$\text{Nb}_3\text{Al}$ Triniobiumaluminum	305.70	mp 2040 dec
1831	$\text{NbB}_2$ Niobium diboride	114.53	mp 3050
1832	$\text{NbBr}_4$ Niobium(V) bromide	412.52	subl 300
1833	$\text{NbBr}_5$ Niobium(V) bromide	492.43	mp 265.2; bp 361.6
1834	$\text{Nb}_3\text{Br}_{8+x}$ ( $0.01 \leq x \leq 1.12$ ) Triniobium octabromide	917.95	subl 400
1835	$\text{NbBr}_3\text{O}$ Niobium tribromide-oxide	348.62	subl <i>t</i> , dec >320
1836	$\text{NbC}$ Niobium monocarbide	104.92	mp 3500 dec
1837	$\text{Nb}_2\text{C}$ Diniobium carbide	197.82	mp 3080 dec
1838	$[\text{Nb}(\text{C}_5\text{H}_5)_2\text{Cl}_4]$ Cyclopentadienyltetrachloroniobium	299.81	subl 210
1839	$[\text{Nb}(\text{C}_5\text{H}_5)_2\text{Cl}_2]$ Bis(cyclopentadienyl)dichloroniobium	294.00	dec >400
1840	$[\text{Nb}(\text{CO})_4\text{C}_5\text{H}_5]$ Tetracarbonyl(cyclopentadienyl)niobium	270.04	mp 146.5
1841	$\text{NbCl}_4$ Niobium(V) chloride	234.72	subl 275; dec >320
1842	$\text{NbCl}_5$ Niobium(V) chloride	270.17	mp 204.7; bp 247.5
1843	$\text{Nb}_3\text{Cl}_{8+x}$ ( $0.01 \leq x \leq 1.39$ ) Triniobium octachloride	562.34	800 $\rightarrow$ $\text{Nb}_6\text{Cl}_{14}$
1844	$\text{Nb}_6\text{Cl}_{14}$ Hexaniobium 14-chloride	1053.78	>900 $\rightarrow$ $\text{NbCl}_4, \text{Nb}$
1845	$\text{NbCl}_3\text{O}$ Niobium trichloride-oxide	215.26	subl 332, mp 429
1846	$\text{NbF}_5$ Niobium(V) fluoride	187.90	mp 79.5; bp 234.5
1847	$\text{Nb}_3\text{Ga}$ Triniobiumgallium	348.44	mp ca. 1900 dec
1848	$\text{Nb}_3\text{Ge}$ Triniobiumgermanium	351.33	mp ca. 1970 dec
1849	$\text{NbH}_{1-x}$ ( $-0.05 \leq x \leq 0.3$ ) Niobium monohydride	93.91	600–800 $\rightarrow$ Nb
1850	$\text{NbH}_2$ Niobium dihydride	94.92	>400 $\rightarrow$ Nb
1851	$\text{NbI}_4$ Niobium(IV) iodide	600.52	subl >420

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1808	wh hydr, 2.19	r	i	+	+	+	-	-
1809	wh, 2.66	r/+	...	+	+	+	+	+
1810	wh	r/+	i	-/+	-/+	-/+	-	-
1811	wh, 1.667	r	i	+	+	+	-	-
1812	wh, 1.72	r	i	+	+	+	-	-
1813	bl-blk, 2.67	+	...	+	+	+	+	+
1814	wh hydr, 2.86	i	...	-/+	-/+	+	-/+	-
1815	wh, 2.5	r/+	...	+	+	+	r	r
1816	wh	r/+	r	+	+	+	r	r
1817	wh, 3.21(1.61)	r	...	-/+	-	-	r	r
1818	wh, 2.4	r/+	i	+	+	+	+	+
1819	wh	r/+	i	+	+	+	+	+
1820	wh	r	i	+	+	+	+	+
1821	wh	r	i	+	+	+	r	r
1822	wh	r	i	+	+	+	+	+
1823	wh, 2.90	+	...	+	+	+	r	r
1824	wh hydr, 2.79	r	i	+	+	+	-/+	...
1825	wh	+	i	+	+	+	-	-
1826	wh	r/+	i	+	+	+	-/+	...
1827	wh, 4.18(3.25)	r	i	+	+	+	-	-
1828	wh hydr, 3.99	r/+	...	+	+	+	+	...
1829	lt-grey, 8.560	-	-	-	-/psv	psv	-	-
1830	lt-grey	-	i	+	+	+	+	...
1831	wh, 6.97	-	i	-	-	-	-	-
1832	brn-blk, 4.72	+	...	+	+	+	+	+
1833	dk-red, 4.36	+	r	+	+	+	+	+
1834	blk-brn, 5.4	+	...	+	+	+	+	+
1835	yel	+	r/+	+	+	+	+	+
1836	grey, 7.6	-	i	-	-	-/+	-	-
1837	dk-grey, 7.7	-	i	-	-	-/+	-	-
1838	dk-red	+	i	+	+	+	+	+
1839	brn	+	i	+	+	+	+	+
1840	red	-/+	r	-/+	-/+	-/+	-/+	...
1841	brn-blk, 3.14	+	...	+	+	+	+	+
1842	wh (t → yel), 2.75	+	+	+	+	+	+	+
1843	blk-grn, 3.75	+	...	+	+	+	+	...
1844	blk-grn, 3.78	-/+	...	-/+	-/+	-/+	+	...
1845	wh, 10.19	+	r/+	+	+	+	+	+
1846	wh, 3.29	+	+	+	+	+	+	+
1847	grey	-	i	+	+	+	+	...
1848	grey	-	i	+	+	+	-/+	...
1849	dk-grey	-	i	-	-/+	-	-	-
1850	grey	-	i	-	-/+	-	-	-
1851	grey, 5.64	+	...	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1852	NbI <sub>5</sub> Niobium(v) iodide	727.43	mp 320 dec ( $\rightarrow$ NbI <sub>4</sub> )
1853	Nb <sub>3</sub> I <sub>8</sub> Triniobium octaiodide	1293.95	>800 $\rightarrow$ Nb <sub>6</sub> I <sub>11</sub>
1854	Nb <sub>6</sub> I <sub>11</sub> Hexaniobium undecaoidide	1953.38	dec >950
1855	NbI <sub>2</sub> O Niobium diiodide-oxide	362.71	dec >500
1856	NbI <sub>3</sub> O Niobium triiodide-oxide	489.62	>150 $\rightarrow$ Nb
1857	NbN Niobium mononitride	106.91	dec >2300
1858	Nb <sub>2-x</sub> N (0 < x < 0.1) Diniobium nitride	199.82	mp 2420
1859	NbO Niobium(III) oxide	108.91	mp 1945
1860	NbO <sub>2</sub> Niobium(IV) oxide	124.90	mp 1915
1861	Nb <sub>2</sub> O <sub>5</sub> Niobium(V) oxide	265.81	mp 1490–1500
1862	Nb <sub>2</sub> O <sub>5</sub> ·nH <sub>2</sub> O	—	–H <sub>2</sub> O >500
1863	NbS <sub>2</sub> Niobium disulfide	157.04	dec 1050
1864	NbSi <sub>2</sub> Niobium disilicide	149.08	mp ca. 1950
1865	Nb <sub>3</sub> Sn Triniobium tin	397.43	mp 2130 dec
<b>1866</b>	<b>Nd Neodymium</b>	144.24	mp 1024, bp ca. 3080
1867	NdB <sub>6</sub> Neodymium hexaboride	209.11	mp ca. 2600
1868	NdBr <sub>3</sub> Neodymium(III) bromide	383.95	mp 683, bp 1540
1869	Nd(BrO <sub>3</sub> ) <sub>3</sub> (·9H <sub>2</sub> O) Neodymium(III) bromate	527.94	mp hydr 66.7; –H <sub>2</sub> O 150
1870	NdC <sub>2</sub> Neodymium dicarbide	168.26	mp 2300 dec
1871	Nd <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> (·10H <sub>2</sub> O) Neodymium(III) oxalate	552.53	hydr >600 $\rightarrow$ Nd <sub>2</sub> O <sub>3</sub>
1872	NdCl <sub>3</sub> Neodymium(III) chloride	250.60	mp 760, bp 1620
1873	NdCl <sub>3</sub> ·6H <sub>2</sub> O	358.69	mp 124, –H <sub>2</sub> O >160
1874	Nd(ClO <sub>4</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Neodymium(III) perchlorate	442.59	dec hydr >170
1875	NdF <sub>3</sub> Neodymium(III) fluoride	201.23	mp 1377, bp 2300
1876	NdI <sub>3</sub> Neodymium(III) iodide	524.96	mp 787, bp 1350
1877	Nd <sub>2</sub> (MoO <sub>4</sub> ) <sub>3</sub> Neodymium(III) molybdate	665.62	mp 1176
1878	Nd(NO <sub>3</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Neodymium(III) nitrate	330.25	dec hydr <i>t</i>
1879	Nd <sub>2</sub> O <sub>3</sub> Neodymium(III) oxide	336.48	mp 2320, bp ca. 4300
1880	Nd(OH) <sub>3</sub> Neodymium(III) hydroxide	195.26	>350 $\rightarrow$ Nd <sub>2</sub> O <sub>3</sub>
1881	Nd <sub>2</sub> S <sub>3</sub> Neodymium(III) sulfide	384.68	mp 2010 dec
1882	Nd <sub>2</sub> (S <sub>2</sub> O <sub>2</sub> ) <sub>2</sub> Dineodymium sulfide-dioxide	352.54	mp ca. 1990
1883	Nd <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> (·8H <sub>2</sub> O) Neodymium(III) sulfate	576.67	–H <sub>2</sub> O 350, dec >700
<b>1884</b>	<b>Ne Neon</b>	20.180	mp –248.6; bp –246.048
<b>1885</b>	<b>Ni Nickel</b>	58.69	mp 1455, bp ca. 2900
1886	(NiAl <sub>2</sub> ) <sub>3</sub> O <sub>4</sub> Nickel-dialuminum tetraoxide	176.65	mp 2110
1887	NiAs Nickel monoarsenide	133.61	mp 964
1888	NiAs <sub>2</sub> Nickel diarsenide	208.53	830 $\rightarrow$ NiAs
1889	Ni <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub> (·8H <sub>2</sub> O) Nickel(II) arsenate	453.91	–H <sub>2</sub> O 200, dec 1000
1890	Ni(As)S Nickel arsenide-sulfide	165.68	700 $\rightarrow$ NiAs, NiS
1891	Ni <sub>2</sub> B Dinickel boride	128.19	mp 1225
1892	NiBr <sub>2</sub> Nickel(II) bromide	218.50	subl 919, mp 963 ( <i>p</i> )
1893	NiBr <sub>2</sub> ·6H <sub>2</sub> O	326.59	mp hydr 28.5; –H <sub>2</sub> O 150
1894	Ni(BrO <sub>3</sub> ) <sub>2</sub> (·6H <sub>2</sub> O) Nickel(II) bromate	314.49	dec hydr <i>t</i>
1895	Ni <sub>3</sub> C Trinickel carbide	188.08	dec 380–400
1896	[Ni(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ] Bis(cyclopentadienyl)nickel	188.88	dec 173, >200 $\rightarrow$ Ni
1897	Ni(CH <sub>3</sub> COO) <sub>2</sub> (·4H <sub>2</sub> O) Nickel(II) acetate	176.78	–H <sub>2</sub> O 90, dec 250
1898	[Ni(C <sub>4</sub> H <sub>7</sub> O <sub>2</sub> N <sub>2</sub> ) <sub>2</sub> ] Bis(dimethylglyoximate)nickel	288.91	subl 250

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1852	yel-orange, 5.32	+	+	+	+	+	+	+
1853	blk, 5.89	+	...	+	+	+	+	+
1854	blk-brn, 5.4	+	...	+	+	+	+	+
1855	blk-brn	+	...	+	+	+	+	+
1856	blk	+	...	+	+	+	+	+
1857	yel-grey, 8.4	-	i	-	-	-/+	+	-
1858	grey	-	i	-	-	-	+	-
1859	dk-grey, 7.26	-	i	+	-/+	-	-/+	-/+
1860	bl-blk, 5.98	-	...	-	-/+	-	-/+	...
1861	wh, 4.47	-	i	-	-/+	-	-/+	-
1862	wh, 4.3	i	...	+	+	+	-/+	-
1863	blk	-	...	-	-/+	-	-/+	-
1864	grey	-	i	-	-	-	-/+	...
1865	grey	-	...	+	+	+	+	...
1866	wh, 7.01	psv/+	-	+	+	+	-	-
1867	bl	-	i	-	-	-	-	-
1868	viol	d	r	-	-/+	-	+	+
1869	red	r	...	-	-	-	+	+
1870	yel, 5.15	+	...	+	+	+	+	+
1871	pink hydr	i	i	i/+ -/+	-/+	i	i	i
1872	pink-viol, 4.13	r	r	r	-	-	+	+
1873	red, 2.28	r	r	r	-	-	+	+
1874	pink-viol hydr	r	...	-	-	-	+	+
1875	lt-viol	i	i	i	-	-	i	-
1876	grn	r	r	r	-/+	-/+	+	+
1877	red-viol, 5.14	i	i	-/+	-/+	-	-/+	-
1878	lt-viol hydr	r	r	-	-	r	+	+
1879	sk-bl, 7.24	-/+	...	+	+	+	-	-
1880	pink	i	...	+	+	+	i/+	i
1881	dk-grn, 5.18	i/+	...	+	+	+	i	i
1882	sk-bl-wh	-	...	+	+	+	-	-
1883	red hydr, 2.85	r	...	-	r	-	+	+
1884	cl gas, 0.90035	i	d	-	-	-	-	-
1885	wh, 8.91	-	-	+	+	+psv	-	-
1886	sk-bl	-	i	-	-/+	-	-/+	-
1887	yel-red, 7.78	-	i	-/+	-/+	-/+	-	-
1888	lt-red, 7.1	-	i	-/+	-/+	-/+	-/+	-
1889	yel-grn hydr, 3.07	i	i	r	r	r	i	i/+
1890	grey, 5.9	-	i	-/+	-/+	-/+	-	-
1891	yel-grey, 4.64	-	i	-/+	-/+	+	-	-
1892	dk-yel, 5.10	r	r	r	-/+	-	+	+
1893	grn	r	r	-	-/+	-/+	+	+
1894	grn hydr, 2.58	r	...	-/+	-/+	r	+	+
1895	grey-blk, 7.97	-	i	+	+	+	-	-
1896	dk-grn	-/+	r	-	-/+	+	-	-
1897	grn hydr, 1.80	r	r	r	-	-	+	+
1898	red	i	r	+	+	+	-	-

No.	Formula and name	$M_r$	Phase transition temperature
1899	Ni(CN) <sub>2</sub> ( $\cdot 2H_2O$ ) Nickel(II) cyanide	110.73	$-H_2O$ 180, dec 400
1900	[Ni(CN) <sub>4</sub> ],K <sub>2</sub> ( $\cdot H_2O$ ) Potassium tetracyanonickelate(II)	240.96	$-H_2O$ 100
1901	[Ni(CN) <sub>4</sub> ],K <sub>4</sub> Potassium tetracyanonickelate(0)	319.15	dec <i>t</i>
1902	NiCO <sub>3</sub> Nickel(II) carbonate	118.70	400 $\rightarrow$ NiO
1903	[Ni(CO) <sub>4</sub> ] Tetracarbonylnickel	170.73	mp $-19.3$ ; bp 42.3
1904	[Ni <sub>2</sub> (CO) <sub>2</sub> (C <sub>3</sub> H <sub>5</sub> ) <sub>2</sub> ] Dicarbonylbis(cyclopentadienyl)dinickel	303.59	mp 139 dec ( $\rightarrow$ Ni)
1905	NiCl <sub>2</sub> ( $\cdot 6H_2O$ ) Nickel(II) chloride	129.60	subl 970, mp 1009 ( <i>p</i> )
1906	Ni(ClO <sub>4</sub> ) <sub>2</sub> ( $\cdot 6H_2O$ ) Nickel(II) perchlorate	257.59	mp hydr 186
1907	NiF <sub>2</sub> ( $\cdot 4H_2O$ ) Nickel(II) fluoride	96.69	subl 1474, mp 1160 ( <i>p</i> )
1908	[NiF <sub>6</sub> ],K <sub>2</sub> Potassium hexafluoronickelate(IV)	250.87	dec 400
1909	[NiF <sub>6</sub> ],K <sub>3</sub> Potassium hexafluoronickelate(III)	289.97	dec ca. 500
1910	Ni(HCOO) <sub>2</sub> ( $\cdot 2H_2O$ ) Nickel(II) formate	148.72	dec hydr >260
1911	<i>trans</i> -[Ni(H <sub>2</sub> O) <sub>4</sub> Cl <sub>2</sub> ] ( $\cdot 2H_2O$ ) <i>trans</i> -Tetraaquadichloronickel	201.66	mp hydr 28.8; dec hydr 140
1912	NiI <sub>2</sub> Nickel(II) iodide	312.50	>300 $\rightarrow$ Ni <sub>3</sub> I <sub>2</sub> ; mp 797 ( <i>p</i> )
1913	NiI <sub>2</sub> $\cdot 6H_2O$	420.59	mp 43; $-H_2O$ 140
1914	Ni(IO <sub>3</sub> ) <sub>2</sub> ( $\cdot 4H_2O$ ) Nickel(II) iodate	408.49	$-H_2O$ ca. 100
1915	Ni <sub>3</sub> N <sub>2</sub> Trinickel dinitride	204.08	585 $\rightarrow$ Ni
1916	Ni(NH <sub>2</sub> ) <sub>2</sub> Nickel(II) amide	90.74	ca. 80 $\rightarrow$ Ni <sub>3</sub> N <sub>2</sub>
1917	[Ni(NH <sub>3</sub> ) <sub>6</sub> ]Br <sub>2</sub> Hexaamminenickel(II) bromide	320.68	ca. 160 $\rightarrow$ NiBr <sub>2</sub>
1918	[Ni(NH <sub>3</sub> ) <sub>6</sub> ]Cl <sub>2</sub> Hexaamminenickel(II) chloride	231.78	176.5 $\rightarrow$ NiCl <sub>2</sub>
1919	[Ni(NH <sub>3</sub> ) <sub>6</sub> ]I <sub>2</sub> Hexaamminenickel(II) iodide	414.68	dec <i>t</i>
1920	Ni(NH <sub>4</sub> ) <sub>2</sub> (SO <sub>4</sub> ) <sub>2</sub> ( $\cdot 6H_2O$ ) Nickel(II)-diammonium sulfate	286.89	$-H_2O$ 130, dec >250
1921	Ni(NO <sub>3</sub> ) <sub>2</sub> ( $\cdot 6H_2O$ ) Nickel(II) nitrate	182.70	mp hydr 56.7; bp 136.7
1922	Ni <sub>1-x</sub> O Nickel(II) oxide	74.69	mp 1955
1923	Ni <sub>2</sub> O <sub>3</sub> ( $\cdot nH_2O$ ) Nickel(III) oxide	165.38	hydr >200 $\rightarrow$ NiO(OH)
1924	Ni(OH) <sub>2</sub> Nickel(II) hydroxide	92.70	230 $\rightarrow$ NiO
1925	NiO(OH) Nickel metahydroxide	91.70	>250 $\rightarrow$ NiO
1926	Ni <sub>2</sub> P Dinickel phosphide	148.35	mp 1110
1927	Ni <sub>3</sub> P Trinickel phosphide	207.04	mp 970 dec
1928	Ni <sub>5</sub> P <sub>2</sub> Pentanickel diphosphide	355.40	mp 1175
1929	[Ni(PF <sub>3</sub> ) <sub>4</sub> ] Tetrakis(trifluorophosphorus)nickel	410.56	mp $-55$ , bp 70.5
1930	Ni <sub>2</sub> P <sub>2</sub> O <sub>7</sub> Nickel(II) diphosphate	291.32	mp 1395
1931	Ni <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> ( $\cdot 7H_2O$ ) Nickel(II) orthophosphate	366.01	$-H_2O$ 110–260
1932	NiS Nickel(II) sulfide	90.76	mp 797
1933	Ni(S <sub>2</sub> ) Nickel(II) disulfide(2-)	122.82	mp 1010
1934	Ni <sub>3</sub> S <sub>2</sub> Trinickel disulfide	240.20	mp 808 dec
1935	NiSO <sub>4</sub> ( $\cdot 7H_2O$ ) Nickel(II) sulfate	154.75	$-H_2O$ 280, dec >700
1936	NiS <sub>2</sub> O <sub>6</sub> ( $\cdot 6H_2O$ ) Nickel(II) dithionate	218.82	<i>t</i> $\rightarrow$ NiSO <sub>4</sub>
1937	NiSb Nickelantimony	180.44	mp 1153
1938	(NiSb)S Nickel-antimony sulfide	212.51	<i>t</i> $\rightarrow$ NiSb, NiS
1939	Ni <sub>1-x</sub> Se Nickel(II) selenide	137.65	mp ca. 1100
1940	Ni(Se <sub>2</sub> ) Nickel(II) diselenide(2-)	216.61	dec <i>t</i>
1941	NiSeO <sub>4</sub> ( $\cdot 6H_2O$ ) Nickel(II) selenate	201.65	dec hydr ca. 300

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1899	lt-viol, 1.82	i	i	r	-	r	-	+
1900	orange-red hydr, 1.88	r/+	...	+	+	+	+	-
1901	dk-red	+	+	+	+	+	+	+
1902	yel-grn	i	...	+	+	+	-	-/+
1903	cl lq, 1.32 <sup>20</sup>	d	r	-	-/+	+	-	-
1904	dk-grn	-/+	r	-/+	-/+	-/+	-/+	-/+
1905	yel, 3.55	r	r	r	-	-	+	+
1906	grn hydr	r	r	-	-	r	+	+
1907	yel-grn, 4.63	r	i	-	-	-	+	+
1908	dk-red	+	...	+	+	+	+	+
1909	viol	+	...	+	+	+	+	+
1910	lt-grn hydr	r	...	r	-/+	-/+	+	+
1911	grn hydr	+	r	-	-/+	-/+	+	+
1912	blk-grn, 5.83	r	r	r	-/+	-/+	+	+
1913	bl-grn	r	r	-	-/+	-/+	+	+
1914	yel, 5.07	d	...	+	-/+	+	+	+
1915	blk, 7.52	+	i	+	+	+	+	+
1916	red	+	+	+	+	+	+	+
1917	sk-bl-viol, 1.84	r/+	i	+	+	+	-/+	r/i
1918	sk-bl-viol, 1.47	r/+	i	+	+	+	-/+	r/i
1919	lt-sk-bl, 2.10	r/+	i	+	+	+	-/+	r/i
1920	grn-sk-bl, 1.92	r	i	-	r	r	+	+
1921	lt-grn hydr, 2.05	r	r	r	r	r	+	+
1922	yel (t → brn), 6.67	-	i	+	+	+	-	+
1923	grey-blk hydr, 4.83	i	i	+	+	+	i	+
1924	lt-grn, 3.65	i	i	+	+	+	i	+
1925	blk, 4.15	i	i	+	+	+	i	-
1926	bl-blk, 6.31	-	i	-	-/+	-/+	-	-
1927	dk-grey	-	...	-	-	-/+	-	-
1928	lt-blk	-	...	-	-	-/+	-	-
1929	cl lq	-/+	r	+	+	+	+	...
1930	yel	i	i	+	+	+	i	+
1931	grn hydr	i	i	r	r	r	i	+
1932	blk, 5.3-5.65	i	i	+	+	+	-	-
1933	viol-grey, 4.39	i	i	-	+	+	-	-/+
1934	yel, 5.82	-	i	+	+	+	-	-
1935	grn, 3.68(1.95)	r	d	r	r	r	+	+
1936	grn hydr, 1.91	r/+	...	-/+	-/+	-/+	+	+
1937	dk-red, 7.54	-	...	+	+	+	-/+	-
1938	lt-grey, 6.65	-	...	+	+	+	-/+	-
1939	grey, 8.46	i	i	-	-	+	-	-/+
1940	dk-grey, 6.0	-	...	-	-/+	-/+	-/+	-/+
1941	grn hydr, 2.31	r	...	-	-	-	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1942	NiSi Nickel monosilicide	86.78	mp 992
1943	Ni <sub>2</sub> Si Dinickel silicide	145.47	mp 1290
1944	Ni(Te <sub>2</sub> ) Nickel(II) ditelluride(2-)	313.89	dec <i>t</i>
<b>1945</b>	<b>No Nobelium</b>	259.101	...
<b>1946</b>	<b>Np Neptunium</b>	237.048	mp 637, bp ca. 4100
1947	NpBr <sub>3</sub> Neptunium(III) bromide	476.76	mp 750
1948	NpBr <sub>4</sub> Neptunium(V) bromide	556.66	mp 464
1949	Np(C <sub>2</sub> O <sub>4</sub> ) <sub>2</sub> (·6H <sub>2</sub> O) Neptunium(IV) oxalate	413.08	hydr >400 → NpO <sub>2</sub>
1950	NpCl <sub>3</sub> Neptunium(III) chloride	343.41	mp 802, bp 1500
1951	NpCl <sub>4</sub> Neptunium(V) chloride	378.86	mp 518, bp 850
1952	NpF <sub>3</sub> Neptunium(III) fluoride	294.04	mp 1425, bp 2223
1953	NpF <sub>4</sub> Neptunium(V) fluoride	313.04	mp 830, bp 1480
1954	NpF <sub>5</sub> Neptunium(V) fluoride	332.04	dec >500
1955	NpF <sub>6</sub> Neptunium(VI) fluoride	351.04	mp and bp 54.76
1956	NpI <sub>3</sub> Neptunium(III) iodide	617.76	mp 767
1957	(Np <sup>V</sup> Np <sup>VI</sup> )O <sub>8</sub> Dineptunium(V)-neptunium(VI) oxide	839.14	300 → Np <sub>2</sub> O <sub>5</sub>
1958	NpO <sub>2</sub> Neptunium(IV) oxide	269.05	mp 2560
1959	Np <sub>2</sub> O <sub>5</sub> Neptunium(V) oxide	554.09	770 → NpO <sub>2</sub>
1960	Np(O)F <sub>4</sub> Neptunium oxide-tetrafluoride	329.04	dec 100
1961	Np(OH) <sub>3</sub> Neptunium(III) hydroxide	288.07	dec <i>t</i>
1962	Np(OH) <sub>4</sub> Neptunium(V) hydroxide	305.08	<i>t</i> → NpO <sub>2</sub>
1963	NpO <sub>2</sub> (OH) Neptunium dioxide-hydroxide	286.05	dec <i>t</i>
1964	NpO <sub>2</sub> (OH) <sub>2</sub> (·H <sub>2</sub> O) Neptunium dioxide-dihydroxide	303.06	-H <sub>2</sub> O 90, dec >240
1965	NpO <sub>3</sub> (OH) Neptunium trioxide-hydroxide	302.05	...
<b>1966</b>	<b>Ns Nielsbohrium</b> (1995 yr: Joliotium, JI)	262.114	...
<b>1967</b>	<b>O<sub>2</sub> Dioxygen</b>	31.998	mp -218.7; bp -182.962
<b>1968</b>	<b>O<sub>3</sub> Ozone</b>	47.997	mp -192.7; bp -111.9
1969	OF <sub>2</sub> Oxygen difluoride	54.00	mp -223.8; bp -144.8
1970	O <sub>2</sub> F <sub>2</sub> Dioxygen difluoride	69.99	mp -163, bp -57 dec
<b>1971</b>	<b>Osmium</b>	190.2	mp 3027, bp ca. 5000
1972	[Os(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ] Bis(cyclopentadienyl)osmium	320.39	mp 229.5
1973	[Os(CO) <sub>5</sub> ] Pentacarbonylosmium	330.25	mp -15, dec >100
1974	[Os <sub>2</sub> (CO) <sub>9</sub> ] Nonacarbonyldiosmium	632.49	dec >20, mp 64 ( <i>p</i> )
1975	[Os <sub>3</sub> (CO) <sub>12</sub> ] Dodecacarbonyltriosmium	906.72	subl 130, mp 224
1976	[Os(CO) <sub>3</sub> Cl <sub>2</sub> ] Tricarbonyldichloroosmium	345.14	mp 271; >300 → Os
1977	[Os(CO) <sub>4</sub> Cl <sub>2</sub> ] Tetracarbonyldichloroosmium	373.15	subl 220; >250 → Os
1978	OsCl <sub>3</sub> Osmium(III) chloride	296.56	subl 350, dec ca. 500
1979	OsCl <sub>4</sub> Osmium(IV) chloride	332.01	mp 323, <i>t</i> → OsCl <sub>3</sub>
1980	[OsCl <sub>6</sub> ] <sub>2</sub> K <sub>2</sub> Potassium hexachloroosmate(IV)	481.11	dec 600
1981	[OsCl <sub>6</sub> ] <sub>2</sub> K <sub>3</sub> (·3H <sub>2</sub> O) Potassium hexachloroosmate(III)	520.21	-H <sub>2</sub> O 150, dec <i>t</i>
1982	[OsCl <sub>6</sub> ](NH <sub>4</sub> ) <sub>2</sub> Ammonium hexachloroosmate(IV)	439.00	subl 170, dec >500
1983	[OsCl <sub>4</sub> O <sub>2</sub> ] <sub>2</sub> K <sub>2</sub> Potassium tetrachlorodioxoosmium(VI)	442.21	dec 200
1984	OsF <sub>4</sub> Osmium(IV) fluoride	266.19	mp 230
1985	OsF <sub>5</sub> Osmium(V) fluoride	285.19	mp 70, bp 233
1986	OsF <sub>6</sub> Osmium(VI) fluoride	304.19	mp 33.4; bp 47.5
1987	[OsH <sub>2</sub> (CO) <sub>4</sub> ] Dihydotetracarbonylosmium	304.26	mp 149

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1942	grey-wh	-	i	-	-	-	-	-
1943	grey-wh, 7.2	-	i	-	-	-	-	-
1944	dk-grey, 7.3	-	...	-	-/+	-/+	-/+	-/+
1945	...	...	...	...	...	...	...	...
1946	wh, 20.48	psv/+	...	+	+/psv	+/psv	-	-
1947	grn, 6.62	r/+	...	-	-/+	-	+	+
1948	red-brn	r/+	...	-	-/+	-	+	+
1949	grn hydr	i	i	i	-/+	i/+	+	...
1950	grey-grn, 5.58	r/+	...	r	-	-	+	+
1951	red, 4.92	r/+	...	r	-	-	+	+
1952	dk-red, 9.12	i	...	-	-	-	-	-
1953	lt-grn, 6.80	i	i	-	-	-	-	-
1954	pink-sk-bl	i/+	...	-	-/+	-/+	-/+	-
1955	orange, 5.0	+	+	+	+	+	+	+
1956	brn, 6.82	r/+	...	-	-/+	-/+	+	+
1957	brn	-	...	-/+	-/+	+	-	-
1958	grn-brn, 11.1	-	i	-	-/+	+	-	-
1959	brn	-	...	+	+	+	-	-
1960	brn	+	...	+	+	+	+	+
1961	red	i	...	+	+	+	i	i
1962	grey-grn	i	...	+	+	+	i	i
1963	grn-viol	i	...	+	+	+	i	i
1964	brn	i	...	+	+	+	i	i
1965	grn-blk	i	...	+	+	+	i	i
1966	...	...	...	...	...	...	...	...
1967	cl gas, 1.42895	d	d	-	-	-	-	-
1968	bl gas, 2.144	d	+	-/+	+	+	+	+
1969	cl gas, 2.421	d/+	...	+	+	+	+	...
1970	dk-red lq, 1.45 <sup>-58</sup>	+	+	+	+	+	+	+
1971	lt-sk-bl, 22.61	-	-	-	-/+	-/+	-	-
1972	lt-yel	-	r	-	-/+	+	-	-
1973	cl lq	-/+	r	-	-/+	-/+	+	-
1974	orange	-	r	-	-	-/+	-/+	-
1975	yel	-	d	-	-	-/+	-	-
1976	wh	-/+	r	-/+	+	+	+	+
1977	wh	-/+	r	-/+	-/+	+	+	+
1978	brn	r	r	r/+	-/+	-/+	+	...
1979	brn	+	i	+	+	+	+	+
1980	red, 3.42	d/r	i	-	-/+	+	+	...
1981	dk-red hydr	r/+	r	-	-	+	+	...
1982	red-brn, 2.93	d/+	i	-	-/+	+	+	...
1983	red, 3.42	+	i	+	+	+	-	-
1984	yel	+	i	+	+	+	+	+
1985	sk-bl-grn	+	...	+	+	+	+	+
1986	yel-grn	+	r	+	+	+	+	+
1987	wh	+	...	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
1988	[Os(N)O <sub>3</sub> ],K Potassium nitridotrioxoosmate(viii)	291.30	dec >180
1989	OsO <sub>2</sub> Osmium(vi) oxide	222.20	>500 → OsO <sub>4</sub>
1990	OsO <sub>4</sub> Osmium(viii) oxide	254.20	mp 40.6; bp 131.2
1991	OsOF <sub>5</sub> Osmium oxide-pentafluoride	301.19	mp 60, bp 100
1992	OsO <sub>3</sub> F <sub>2</sub> Osmium trioxide-difluoride	276.19	mp 172
1993	Os(OH) <sub>4</sub> Osmium(vi) hydroxide	258.23	<i>t</i> → OsO <sub>2</sub>
1994	[OsO <sub>2</sub> (OH) <sub>4</sub> ],K Potassium dioxotetrahydroxoosmate(vi)	368.42	dec >140
1995	Os(S <sub>2</sub> ) Osmium(ii) disulfide(2-)	254.33	dec >1000
1996	<b>P</b> (amor) <b>Phosphorus</b> , red	30.974	subl 416
1997	<b>P</b> <b>Phosphorus</b> , black	30.974	mp ca. 1000 ( <i>p</i> )
1998	<b>P<sub>4</sub></b> <b>Phosphorus</b> , white	123.896	mp 44.14; bp 287.3
1999	PBr <sub>3</sub> Phosphorus tribromide	270.69	mp -41.5; bp 173.3
2000	PBr <sub>5</sub> Phosphorus pentabromide	430.49	bp 106 dec
2001	P(Br)Cl <sub>2</sub> O Phosphorus bromide-dichloride-oxide	197.78	mp 11; bp 136.5
2002	PBr <sub>2</sub> (Cl)O Phosphorus dibromide-chloride-oxide	242.23	mp 31; bp 165
2003	P(Br)Cl(O)F Phosphorus bromide-chloride-oxide-fluoride	181.33	bp 79
2004	P(Br)F <sub>2</sub> Phosphorus bromide-difluoride	148.87	mp -133.8; bp -16.1
2005	PBr <sub>2</sub> F Phosphorus dibromide-fluoride	209.78	mp -115, bp 78.5
2006	PBr <sub>2</sub> F <sub>3</sub> Phosphorus dibromide-trifluoride	247.78	mp -20, dec 15
2007	(PBr <sub>4</sub> )F Tetrabromophosphonium fluoride	369.59	mp 87 dec
2008	PBr <sub>3</sub> O Phosphorus tribromide-oxide	286.69	mp 55.7; bp 193
2009	PBr(O)F <sub>2</sub> Phosphorus bromide-oxide-difluoride	164.87	mp -84.8; bp 30.5
2010	PBr <sub>2</sub> (O)F Phosphorus dibromide-oxide-fluoride	225.78	mp -117.2; bp 110.1
2011	PCl <sub>3</sub> Phosphorus trichloride	137.33	mp -90.34; bp 75.3
2012	PCl <sub>5</sub> Phosphorus pentachloride	208.24	subl 180, mp 166.8 ( <i>p</i> )
2013	P <sub>2</sub> Cl <sub>4</sub> Diphosphorus tetrachloride	203.76	mp -28, bp 180
2014	P(Cl)F <sub>2</sub> Phosphorus chloride-difluoride	104.42	mp -164.8; bp -47.3
2015	P(Cl)F <sub>4</sub> Phosphorus chloride-tetrafluoride	142.42	mp -132, bp -43.4
2016	PCl <sub>2</sub> F Phosphorus dichloride-fluoride	120.88	mp -144, bp 13.85
2017	PCl <sub>2</sub> F <sub>3</sub> Phosphorus dichloride-trifluoride	158.87	mp -125, bp 7.1
2018	PCl <sub>4</sub> F Phosphorus tetrachloride-fluoride	191.78	mp -59, >30 → (PCl <sub>4</sub> )F
2019	(PCl <sub>4</sub> )F Tetrachlorophosphonium fluoride	191.78	subl 175, mp 177 ( <i>p</i> )
2020	(PCl <sub>2</sub> ) <sub>3</sub> N <sub>3</sub> Tris(dichlorophosphorus) trinitride	347.66	mp 114, bp 256
2021	(PCl <sub>2</sub> ) <sub>4</sub> N <sub>4</sub> Tetrakis(dichlorophosphorus) tetranitride	463.55	mp 123.5; bp 328.5
2022	PCl <sub>3</sub> O Phosphorus trichloride-oxide	153.33	mp 1.25; bp 105.8
2023	PCl(O)F <sub>2</sub> Phosphorus chloride-oxide-difluoride	120.42	mp -96.4; bp 3.1
2024	PCl <sub>2</sub> (O)F Phosphorus dichloride-oxide-fluoride	136.88	mp -84.5; bp 54
2025	PF <sub>3</sub> Phosphorus trifluoride	87.97	mp -151.5; bp -101.8
2026	PF <sub>5</sub> Phosphorus pentafluoride	125.96	mp -93.75; bp -84.55
2027	[PF <sub>6</sub> ],H (·6H <sub>2</sub> O) Hydrogen hexafluorophosphate(v)	145.97	mp hydr 32, dec hydr <i>t</i>
2028	[PF <sub>6</sub> ],K Potassium hexafluorophosphate(v)	184.06	mp 575
2029	[PF <sub>4</sub> ],NH <sub>4</sub> Ammonium hexafluorophosphate(v)	163.00	dec >200
2030	[PF <sub>6</sub> ],Na (·H <sub>2</sub> O) Sodium hexafluorophosphate(v)	167.95	dec hydr 200
2031	[PF <sub>6</sub> ],PCl <sub>4</sub> Tetrachlorophosphonium hexafluorophosphate(v)	317.75	subl 135 dec

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
1988	yel-orange, 4.2	r	d	+	+	+	-	r
1989	brn-blk, 7.91	-	...	+	+	+	+	+
1990	lt-yel, 4.91	+	r	-/+	-/+	-/+	+	+
1991	grn	+	...	+	+	+	+	+
1992	orange	+	...	+	+	+	+	+
1993	blk	i	...	+	i	-/+	i	i
1994	viol-red	r/+	i	+	+	+	-	-
1995	brn-blk, 9.47	i	...	+	-/+	+	-	-
1996	red, 2.340	-	r	-	-/+	-/+	-	-
1997	blk, 2.7	-	i	-	-	-/+	-	-
1998	wh, 1.82	-	d	-/+	+	+	+	+
1999	cl lq, 2.852 <sup>15</sup>	+	+	+	+	+	+	+
2000	orange	+	i	+	+	+	+	+
2001	cl lq, 2.104 <sup>14</sup>	+	...	+	+	+	+	+
2002	yel	+	...	+	+	+	+	+
2003	cl lq	+	r	+	+	+	+	+
2004	cl gas	+	...	+	+	+	+	+
2005	cl gas	+	...	+	+	+	+	+
2006	yel-red lq	+	...	+	+	+	+	+
2007	lt-yel	+	...	+	+	+	+	+
2008	wh, 2.82	+	r/+	+	+	+	+	+
2009	cl lq	+	...	+	+	+	+	+
2010	cl lq	+	...	+	+	+	+	+
2011	cl lq, 1.5567 <sup>20</sup>	+	r	+	+	+	+	+
2012	wh, 2.11	+	...	+	+	+	+	+
2013	cl lq	+	...	+	+	+	+	+
2014	cl gas	+	r	+	+	+	+	+
2015	cl gas	+	...	+	+	+	+	+
2016	cl gas, 1.590	+	...	+	+	+	+	+
2017	cl gas, 5.4	+	+	+	+	+	+	+
2018	cl lq	+	...	+	+	+	+	+
2019	wh	+	...	+	+	+	+	+
2020	wh, 1.98	-/+	r	-	-	-	-	-
2021	wh, 2.18	-/+	r	-	-	-	-	-
2022	cl lq, 1.645 <sup>20</sup>	+	r/+	+	+	+	+	+
2023	cl gas	+	...	+	+	+	+	+
2024	cl lq	+	...	+	+	+	+	+
2025	cl gas, 4.19	+	r	+	+	+	+	+
2026	cl gas, 5.81	+	...	+	+	+	+	+
2027	wh hydr	r/+	...	-	-	-	+	+
2028	wh	r	...	-	-	-	-	-
2029	wh, 2.18	r/+	r	-/+	-/+	-/+	-/+	-
2030	wh, 2.51(2.37)	r	...	-	-	-	-	-
2031	wh	+	...	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
2032	PH <sub>3</sub> Phosphine	34.00	mp -133.8; bp -87.42
2033	P <sub>2</sub> H <sub>4</sub> Diphosphan	65.98	mp -99.0; bp 63.2
2034	PH <sub>4</sub> Br Phosphonium bromide	114.91	subl 38
2035	(PH)F <sub>2</sub> Difluorophosphine	69.98	mp -124, bp -65
2036	PH <sub>4</sub> I Phosphonium iodide	161.91	mp 18.5; bp 80 dec
2037	PI <sub>3</sub> Phosphorus triiodide	411.69	mp 61.0; dec >200
2038	P <sub>2</sub> I <sub>4</sub> Diphosphorus tetraiodide	569.56	mp 125.5
2039	PI <sub>2</sub> Cl <sub>3</sub> Phosphorus diiodide-trichloride	391.14	dec 259
2040	PI <sub>3</sub> O Phosphorus triiodide-oxide	427.69	mp 50
2041	[PMo <sub>12</sub> O <sub>40</sub> ] <sub>3</sub> ·H <sub>3</sub> (·28H <sub>2</sub> O) Hydrogen 40-oxododecamolybdophosphate(v)	1825.24	mp hydr 78
2042	[PMo <sub>12</sub> O <sub>40</sub> ] <sub>3</sub> (NH <sub>4</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Ammonium 40-oxododecamolybdophosphate(v)	1876.33	...
2043	PN Phosphorus mononitride	44.98	dec 800
2044	P(NH <sub>2</sub> ) <sub>3</sub> O Phosphorus triamide-oxide	95.04	mp 160
2045	PN(NH) Phosphorus nitride-imide	60.00	dec 400
2046	PN(NH <sub>2</sub> ) <sub>2</sub> Phosphorus nitride-diamide	77.03	mp 162
2047	P <sub>4</sub> O <sub>6</sub> Tetraphosphorus hexaoxide	219.89	mp 23.8; bp 175.4
2048	P <sub>4</sub> O <sub>8</sub> Tetraphosphorus octaoxide	251.89	subl 180
2049	P <sub>4</sub> O <sub>10</sub> Tetraphosphorus decaoxide	283.89	subl 359, mp 422 (p)
2050	POF <sub>3</sub> Phosphorus oxide-trifluoride	103.97	subl -39.8; mp -39.4
2051	P <sub>2</sub> OF <sub>6</sub> Diphosphorus oxide-hexafluoride	191.94	bp -18, dec >20
2052	[P(OH) <sub>4</sub> ] <sub>3</sub> ClO <sub>4</sub> Tetrahydroxophosphorus(v) perchlorate	198.45	mp 47
2053	P <sub>4</sub> S <sub>2</sub> Tetraphosphorus disulfide	188.03	mp 46
2054	P <sub>4</sub> S <sub>3</sub> Tetraphosphorus trisulfide	220.09	mp 172.5; bp 407.5
2055	P <sub>4</sub> S <sub>5</sub> Tetraphosphorus pentasulfide	284.23	soft 170-220 dec
2056	P <sub>4</sub> S <sub>6</sub> Tetraphosphorus hexasulfide	316.29	mp 232 dec
2057	P <sub>4</sub> S <sub>7</sub> Tetraphosphorus heptasulfide	348.36	mp 312, bp 523
2058	P <sub>4</sub> S <sub>9</sub> Tetraphosphorus nonasulfide	412.49	soft 240-270 dec
2059	P <sub>4</sub> S <sub>10</sub> Tetraphosphorus decasulfide	444.56	mp 288, bp 514
2060	P(S)Br <sub>3</sub> Phosphorus sulfide-tribromide	302.75	mp 38.2; bp 215 dec
2061	PS(Br)Cl <sub>2</sub> Phosphorus sulfide-bromide-dichloride	213.85	mp -30, bp 156
2062	P(S)Br(Cl)F Phosphorus sulfide-bromide-chloride-fluoride	197.40	bp 98
2063	PS(Br)F <sub>2</sub> Phosphorus sulfide-bromide-difluoride	180.94	mp -136.9; bp 35.5
2064	P(S)Br <sub>2</sub> F Phosphorus sulfide-dibromide-fluoride	241.85	mp -75.2; bp 125.3
2065	P(S)Cl <sub>3</sub> Phosphorus sulfide-trichloride	169.40	mp -36.2; bp 125
2066	PS(Cl)F <sub>2</sub> Phosphorus sulfide-chloride-difluoride	136.49	mp -155.2; bp 6.3
2067	P(S)Cl <sub>2</sub> F Phosphorus sulfide-dichloride-fluoride	152.94	mp -96.0; bp 64.7
2068	P(S)F <sub>3</sub> Phosphorus sulfide-trifluoride	120.03	mp -149, bp -52
2069	P(S)I <sub>3</sub> Phosphorus sulfide-triiodide	443.75	mp 46
2070	PS(NH <sub>2</sub> ) <sub>3</sub> Phosphorus sulfide-triamide	111.11	mp 118-119
2071	[PV <sub>12</sub> O <sub>36</sub> ] <sub>3</sub> (NH <sub>4</sub> ) <sub>7</sub> Ammonium 36-oxododecavanadophosphate(v)	1344.52	dec >450
2072	[PW <sub>12</sub> O <sub>40</sub> ] <sub>3</sub> ·H <sub>3</sub> (·24H <sub>2</sub> O) Hydrogen 40-oxododecawolframophosphate(v)	2880.16	mp hydr 80

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2032	cl gas, 1.5294	d	r	-	-/+	-/+	-	-
2033	cl lq, 1.012 <sup>20</sup>	i	r	-	-/+	-/+	-	-
2034	wh	+	...	+	+	+	+	+
2035	cl gas	+	...	+	+	+	+	+
2036	wh, 2.86	+	...	+	+	+	+	+
2037	dk-red, 4.18	+	r	+	+	+	+	+
2038	orange-red, 3.89	+	...	+	+	+	+	+
2039	red	+	...	+	+	+	+	+
2040	viol	+	r	+	+	+	+	+
2041	yel hydr, 2.53	r/+	d	-/+	-/+	-/+	+	+
2042	yel	i	i	-	-	-	+	-/+
2043	yel-brn	-	...	-	-	-/+	-	-
2044	wh	-/+	i	+	+	+	+	+
2045	wh	-	...	-	-	-	-	-
2046	wh	-	...	-/+	-/+	-/+	-	-
2047	wh, 2.14	+	...	+	+	+	+	+
2048	wh	+	i	+	+	+	+	+
2049	wh, 2.39	+	...	+	+	+	+	+
2050	cl gas, 4.8	+	r	+	+	+	+	+
2051	cl gas	+	...	+	+	+	+	+
2052	wh	+	...	+	+	+	+	+
2053	yel	-/+	...	-	-	-/+	-	-
2054	yel-grn, 2.03	-/+	...	-	-	+	-	-
2055	yel, 2.17	+	...	+	+	+	+	+
2056	dk-yel	+	r	+	+	+	+	+
2057	lt-yel, 2.19	+	i	+	+	+	+	+
2058	yel, 2.08	+	...	+	+	+	+	+
2059	dk-yel, 2.09	+	...	+	+	+	+	+
2060	yel, 2.85	+	r	+	+	+	+	+
2061	yel lq, 2.12 <sup>0</sup>	+	...	+	+	+	+	+
2062	yel lq	+	...	+	+	+	+	+
2063	yel lq	+	...	+	+	+	+	+
2064	yel lq	+	...	+	+	+	+	+
2065	cl lq, 1.635 <sup>20</sup>	+	...	+	+	+	+	+
2066	cl gas	+	...	+	+	+	+	+
2067	cl lq	+	...	+	+	+	+	+
2068	cl gas	+	...	+	+	+	+	+
2069	yel	+	...	+	+	+	+	+
2070	wh	-/+	i	-	-/+	-/+	+	+
2071	viol-red	r/+	r	-/+	-/+	-/+	-	-
2072	wh hydr	r/+	d	-/+	-/+	-/+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
<b>2073</b>	<b>Pa Protactinium</b>	231.036	mp 1580, bp ca. 4500
2074	PaBr <sub>5</sub> Protactinium(v) bromide	630.56	mp 317
2075	PaCl <sub>4</sub> Protactinium(IV) chloride	372.85	mp 680, bp 850
2076	PaCl <sub>5</sub> Protactinium(V) chloride	408.30	mp 301, bp 420
2077	PaF <sub>4</sub> Protactinium(IV) fluoride	307.03	mp 1030, bp 1630
2078	PaF <sub>5</sub> Protactinium(V) fluoride	326.03	subl 500
2079	PaI <sub>5</sub> Protactinium(V) iodide	865.56	mp 300 dec
2080	PaO <sub>2+x</sub> Protactinium(IV) oxide	263.03	...
2081	Pa <sub>2</sub> O <sub>5</sub> Protactinium(V) oxide	542.07	1550 → Pa <sub>2</sub> O <sub>2+x</sub>
2082	Pa(OH) <sub>5</sub> Protactinium(V) hydroxide	316.07	>500 → Pa <sub>2</sub> O <sub>5</sub>
<b>2083</b>	<b>Pb Lead</b>	207.2	mp 327.502; bp 1745
2084	Pb <sub>2</sub> As <sub>2</sub> O <sub>7</sub> Lead(II) heptaarsenate(IV)	676.24	mp 802
2085	Pb <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub> Lead(II) arsenate	899.44	mp 1042 dec
2086	Pb(BO <sub>2</sub> ) <sub>2</sub> (H <sub>2</sub> O) Lead(II) metaborate	292.82	-H <sub>2</sub> O 160, mp 600 dec
2087	PbBr <sub>2</sub> Lead(II) bromide	367.01	mp 373, bp 893
2088	Pb(BrO <sub>3</sub> ) <sub>2</sub> (H <sub>2</sub> O) Lead(II) bromate	463.00	dec hydr 180
2089	Pb(CH <sub>3</sub> COO) <sub>2</sub> Lead(II) acetate	325.29	mp 280
2090	Pb(CH <sub>3</sub> COO) <sub>2</sub> · 3H <sub>2</sub> O	379.33	mp 75, -H <sub>2</sub> O >75
2091	Pb(CH <sub>3</sub> COO) <sub>4</sub> Lead(IV) acetate	443.38	mp 175-180 dec
2092	PbCO <sub>3</sub> Lead(II) carbonate	267.21	>300 → PbO
2093	PbC <sub>2</sub> O <sub>4</sub> Lead(II) oxalate	295.22	dec 300
2094	Pb <sub>2</sub> (CO <sub>3</sub> )Cl <sub>2</sub> Lead(II) carbonate-dichloride	509.86	dec ca. 350
2095	PbCl <sub>2</sub> Lead(II) chloride	278.11	mp 501, bp 950
2096	PbCl <sub>4</sub> Lead(IV) chloride	349.01	mp -7, dec ca. 100
2097	Pb(Cl)F Lead(II) chloride-fluoride	261.65	mp 606
2098	[PbCl <sub>6</sub> ],K <sub>2</sub> Potassium hexachloroplumbate(IV)	498.11	dec >190
2099	[PbCl <sub>6</sub> ],(NH <sub>4</sub> ) <sub>2</sub> Ammonium hexachloroplumbate(IV)	456.00	dec >130
2100	Pb(ClO <sub>2</sub> ) <sub>2</sub> Lead(II) chlorite	342.10	dec 126
2101	Pb(ClO <sub>3</sub> ) <sub>2</sub> (H <sub>2</sub> O) Lead(II) chlorate	374.10	-H <sub>2</sub> O 110, dec 230
2102	Pb(ClO <sub>4</sub> ) <sub>2</sub> (·3H <sub>2</sub> O) Lead(II) perchlorate	406.10	dec hydr 100
2103	PbCl(OH) Lead(II) chloride-hydroxide	259.66	dec >140
2104	PbCrO <sub>4</sub> (H <sub>2</sub> O) Lead(II) chromate	323.19	mp 844, dec >850
2105	PbCr <sub>2</sub> O <sub>7</sub> Lead(II) dichromate	423.19	dec <i>t</i>
2106	PbF <sub>2</sub> Lead(II) fluoride	245.20	mp 824, bp 1293
2107	PbF <sub>4</sub> Lead(IV) fluoride	283.19	mp ca. 600
2108	PbHAsO <sub>4</sub> Lead(II) hydroarsenate	347.13	ca. 400 → Pb <sub>2</sub> As <sub>2</sub> O <sub>7</sub>
2109	Pb(HCOO) <sub>2</sub> Lead(II) formate	297.23	dec 190
2110	Pb(HSO <sub>4</sub> ) <sub>2</sub> (H <sub>2</sub> O) Lead(II) hydrosulfate	401.34	dec hydr <i>t</i>
2111	PbI <sub>2</sub> Lead(II) iodide	461.01	mp 402, bp 954
2112	[PbI <sub>3</sub> ],K (·2H <sub>2</sub> O) Potassium triiodoplumbate(II)	627.01	-H <sub>2</sub> O 30-97, dec 349
2113	Pb(IO <sub>3</sub> ) <sub>2</sub> Lead(II) iodate	557.00	dec 300
2114	PbMoO <sub>4</sub> Lead(II) molybdate	367.14	mp 1070
2115	Pb(N <sub>3</sub> ) <sub>2</sub> Lead(II) azide	291.24	dec 350
2116	Pb(NCS) <sub>2</sub> Lead(II) thiocyanate	323.37	dec >190
2117	Pb(NO <sub>3</sub> ) <sub>2</sub> Lead(II) nitrate	331.21	470 → PbO
2118	Pb(NO <sub>3</sub> )OH Lead(II) nitrate-hydroxide	286.21	dec 180
2119	α-PbO Lead(II) oxide	223.20	488 → β-PbO
2120	β-PbO	223.20	mp 886, bp 1535

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2073	lt-grey, 15.37	psv	—	+/psv	+	psv	—	—
2074	orange-red	+	r	+	+	+	+	+
2075	yel-grn, 4.68	d	...	+	+	+	+	+
2076	lt-yel	+	r	+	+	+	+	+
2077	red-brn	i/+	...	—	—	i	+	i
2078	wh	i	r	—	—	i	i	i
2079	blk	+	r	+	+	+	+	+
2080	bl ( <i>t</i> → red)	—	i	—	—	—	—	—
2081	wh, 9.0	—	i	—	i/+	—	—	—
2082	wh, 13.43	i	i	+	+	+	—	—
2083	grey-sk-bl, 11.337	psv	—	psv	psv/+	+/psv	+	—
2084	wh	i/+	...	+	—	+	—	—
2085	wh	i	...	+	-/+	+	—	—
2086	wh	i	i	+	+	+	—	—
2087	wh, 6.66	d	d	-/+	-/+	—	-/+	—
2088	wh hydr, 5.53	d	...	—	-/+	—	+	—
2089	wh, 3.25	r	d	+	+	—	+	+
2090	wh, 2.55	r	i	+	+	—	+	+
2091	wh, 2.23	+	+	+	+	+	+	+
2092	wh, 6.55	i/+	i	+	+	+	+	—
2093	wh, 5.28	i	i	-/+	i/+	-/+	+	i
2094	wh, 6.1	i	i	-/+	-/+	-/+	-/+	—
2095	wh, 5.85	d	i	-/+	-/+	i	+	d
2096	yel lq, 3.18 <sup>0</sup>	+	...	+	+/-	+	+	+
2097	yel-grn	i	i	—	-/+	d	+	d
2098	lt-yel	+	...	+	+	+	+	+
2099	lt-yel	+	...	+	+	+	+	+
2100	yel	d	...	-/+	-/+	-/+	+	—
2101	wh, 4.04(3.89)	r	r	—	-/+	-/+	+	+
2102	wh hydr, 2.6	r	r	+	+	—	+	+
2103	wh	i	...	+	+	+	-/+	—
2104	yel, 6.02	i	...	i	i	+	+	i
2105	red	+	...	+	+	r	+	+
2106	wh, 8.45	d	i	—	+	d	-/+	d
2107	wh, 6.7	+	...	+	+	+	+	+
2108	wh	i	...	—	-/+	+	+	+
2109	wh, 4.63	d	i	+	+	-/+	+	+
2110	wh hydr	d	...	—	d	—	+	+
2111	yel ( <i>t</i> → brn), 6.16	d	i	d	d/+	d/+	+	—
2112	lt-yel	+	...	-/+	+	+	-/+	—
2113	wh	i	d	-/+	-/+	—	—	—
2114	lt-yel, 6.75	i	i	+	+	+	+	—
2115	wh, 4.71	i	...	+	+	-/+	+	—
2116	wh, 3.82	d	...	-/+	-/+	-/+	+	—
2117	wh, 4.53	r	d	+	+	r	+	+
2118	wh, 5.93	r	...	+	+	+	+	+
2119	red, 9.13	—	i	+	+	+	+	—
2120	yel, 9.45	—	i	+	+	+	+	—

No.	Formula and name	$M_r$	Phase transition temperature
2121	PbO <sub>2</sub> Lead(IV) oxide	239.20	dec >344
2122	Pb(OH) <sub>2</sub> Lead(II) hydroxide	241.21	100 → PbO
2123	[Pb(OH) <sub>6</sub> ] <sub>2</sub> Na <sub>2</sub> Sodium hexahydroxoplumbate(IV)	355.22	dec 300
2124	Pb <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> Lead(II) orthophosphate	811.54	mp 1014
2125	Pb <sub>5</sub> (PO <sub>4</sub> ) <sub>3</sub> Cl Pentalead tris(orthophosphate)-chloride	1356.36	dec ca. 1100
2126	(Pb <sup>II</sup> Pb <sup>IV</sup> )O <sub>4</sub> Dilead(II)-lead(IV) oxide	685.60	550 → PbO
2127	PbS <sub>1+x</sub> (0 ≤ x ≤ 0.005) Lead(II) sulfide	239.27	mp 1077, bp 1281
2128	PbSO <sub>4</sub> Lead(II) sulfate	303.26	mp 1170
2129	Pb(SO <sub>4</sub> ) <sub>2</sub> Lead(IV) sulfate	399.32	...
2130	PbSe Lead(II) selenide	286.16	mp 1065
2131	PbSeO <sub>4</sub> Lead(II) selenate	350.16	dec >1200
2132	PbSiO <sub>3</sub> Lead(II) metasilicate	283.28	mp 766
2133	PbTe Lead(II) telluride	334.80	mp 860
2134	Pb <sub>5</sub> (VO <sub>4</sub> ) <sub>3</sub> Cl Pentalead tris(orthovanadate)-chloride	1416.27	dec >1300
2135	PbWO <sub>4</sub> Lead(II) wolframate	455.05	mp 1123
2136	<b>Pd Palladium</b>	106.42	mp 1554, bp 2940
2137	PdBr <sub>2</sub> Palladium(II) bromide	266.23	mp 717
2138	[Pd(C <sub>4</sub> H <sub>7</sub> O <sub>2</sub> N <sub>2</sub> ) <sub>2</sub> ] Bis(dimethylglyoximate)palladium	336.64	dec <i>t</i>
2139	Pd(CN) <sub>2</sub> Palladium(II) cyanide	158.46	dec 210
2140	Pd(CN) <sub>4</sub> Palladium(IV) cyanide	210.49	dec >20
2141	[Pd(CN) <sub>4</sub> ] <sub>2</sub> K <sub>2</sub> (·3H <sub>2</sub> O) Potassium tetracyanopalladate(II)	288.69	-H <sub>2</sub> O 200, dec <i>t</i>
2142	PdCl <sub>2</sub> Palladium(II) chloride	177.33	mp 680, >800 → Pd
2143	[PdCl <sub>4</sub> ] <sub>2</sub> K <sub>2</sub> Potassium tetrachloropalladate(II)	326.43	mp 525
2144	[PdCl <sub>6</sub> ] <sub>2</sub> K <sub>2</sub> Potassium hexachloropalladate(IV)	397.33	380 → K <sub>2</sub> [PdCl <sub>4</sub> ]
2145	[PdCl <sub>4</sub> ](NH <sub>4</sub> ) <sub>2</sub> Ammonium tetrachloropalladate(II)	284.31	dec 430
2146	[PdCl <sub>6</sub> ](NH <sub>4</sub> ) <sub>2</sub> Ammonium hexachloropalladate(IV)	355.22	>300 → (NH <sub>4</sub> ) <sub>2</sub> [PdCl <sub>4</sub> ]
2147	PdF <sub>2</sub> Palladium(II) fluoride	144.42	subl >500 dec
2148	PdF <sub>4</sub> Palladium(IV) fluoride	182.41	...
2149	[Pd <sup>IV</sup> F <sub>6</sub> ] <sub>2</sub> Pd Palladium(II) hexafluoropalladate(IV)	326.83	dec <i>t</i>
2150	PdI <sub>2</sub> Palladium(II) iodide	360.23	dec 350
2151	<i>trans</i> -[Pd(NH <sub>3</sub> ) <sub>2</sub> Cl <sub>2</sub> ] <i>trans</i> -Diamminedichloropalladium	211.39	210 → Pd, NH <sub>4</sub> Cl
2152	<i>trans</i> -[Pd(NH <sub>3</sub> ) <sub>2</sub> Cl <sub>4</sub> ] <i>trans</i> -Diamminetetrachloropalladium	282.29	260 → Pd, NH <sub>4</sub> Cl
2153	[Pd(NH <sub>3</sub> ) <sub>4</sub> ]Cl <sub>2</sub> (·H <sub>2</sub> O) Tetramminepalladium(II) chloride	245.45	dec hydr 120
2154	[Pd(NH <sub>3</sub> ) <sub>4</sub> ][Pd <sup>II</sup> Cl <sub>4</sub> ] Tetramminepalladium(II) tetrachloropalladate(II)	422.78	>180 → [Pd(NH <sub>3</sub> ) <sub>2</sub> Cl <sub>2</sub> ]
2155	Pd(NO <sub>3</sub> ) <sub>2</sub> (·2H <sub>2</sub> O) Palladium(II) nitrate	230.43	dec >350
2156	[Pd(NO <sub>2</sub> ) <sub>4</sub> ] <sub>2</sub> K <sub>2</sub> Potassium tetranitropalladate(II)	368.64	dec 305
2157	PdO Palladium(II) oxide	122.42	dec 780
2158	PdO <sub>2</sub> (· <i>n</i> H <sub>2</sub> O) Palladium(IV) oxide	138.42	hydr >200 → PdO
2159	Pd(OH) <sub>2</sub> Palladium(II) hydroxide	140.43	dec >500
2160	[Pd(OH) <sub>4</sub> ] <sub>2</sub> Na <sub>2</sub> Sodium tetrahydroxopalladate(II)	220.43	dec >300
2161	PdS Palladium(II) sulfide	138.49	dec 950
2162	Pd(S <sub>2</sub> ) Palladium(II) disulfide(2-)	170.55	600 → PdS

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2121	dk-brn, 9.38	—	i	+	-/+	-/+	-/+	—
2122	wh	i	...	+	+	+	+	i
2123	wh, 3.98	+	i	+	+	+	+/r	+
2124	wh, 6.9–7.3	i	i	-/+	-/+	+	+	—
2125	yel, 6.5–6.8	i	i	-/+	-/+	+	+	—
2126	orange-red, 9.07	—	i	+	+	+	-/+	—
2127	grey-blk, 7.58	i	i	-/+	-/+	+	i	i
2128	wh, 6.2–6.4	i	i	-/+	i	-/+	-/+	—
2129	yel	+	+	+	+/-	+	+	+
2130	grey-blk, 7.99	i	...	-/+	-/+	+	i/+	...
2131	wh, 6.37	i	...	-/+	-/+	-/+	—	—
2132	wh, 6.49	i	...	+	+	+	-/+	—
2133	dk-grey, 8.14	i	...	-/+	-/+	+	i/+	...
2134	red, 6.9	i	i	-/+	-/+	+	+	—
2135	wh, 8.10	i	i	+	+	+	+	—
2136	lt-grey, 12.02	—	—	—	-/+	-/+	—	—
2137	red-brn, 5.17	i	i	-/+	-/+	—	+	+
2138	yel	i	d/r	—	—	—	+	—
2139	wh	i	...	i/+	i/+	i/+	+	+
2140	pink	+	...	+	+	+	+	+
2141	wh	r	...	-/+	-/+	-/+	—	—
2142	viol-brn, 4.08	i/+	d	+	—	—	+	+
2143	yel-brn, 2.67	d/+	i/r	—	—	—	+	+
2144	red-brn, 2.74	d/+	i	-/+	—	—	+	+
2145	dk-grn, 2.17	r/+	i	—	—	—	+	+
2146	red-brn, 2.42	d/+	i	—	—	—	+	+
2147	lt-viol, 5.80	d/+	...	+	—	—	+	+
2148	red	+	...	+	+	+	+	+
2149	blk, 5.06	+	...	+	+	+	+	+
2150	blk, 6.00	i	i	-/+	-/+	-/+	+	+
2151	yel-orange, 2.5	d/+	i	+	+	+	+	+
2152	red-orange	r	...	+	+	+	+	—
2153	wh hydr, 1.91	r	...	+	+	+	-/+	r
2154	pink-red	i/+	...	+	+	+	+	i/+
2155	yel-brn hydr	r/+	...	+	-/+	r/d	+	+
2156	lt-yel	r	i	-/+	—	—	-/+	+
2157	blk, 8.7	—	i	-/+	—	—	—	—
2158	dk-red hydr	i	...	+	+	+	i/+	i/+
2159	brn	i	i	+	+	+	+	i/+
2160	yel	r	...	+	+	+	r	r
2161	brn-blk, 6.6	i	i	—	-/+	+	i	i
2162	blk-brn	i	i	—	—	—	—	—

No.	Formula and name	$M_r$	Phase transition temperature
2163	PdSO <sub>4</sub> (·2H <sub>2</sub> O) Palladium(II) sulfate	202.48	-H <sub>2</sub> O 250
2164	PdSe Palladium(II) selenide	185.38	mp ca. 960
2165	Pd(Se <sub>2</sub> ) Palladium(II) diselenide(2-)	264.34	mp 1000
2166	PdSeO <sub>4</sub> Palladium(II) selenate	249.38	dec 600
<b>2167</b>	<b>Pm Promethium</b>	144.913	mp 1170, bp ca. 3000
2168	PmBr <sub>3</sub> Promethium(III) bromide	384.63	mp 680, bp 1530
2169	Pm <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> (·10H <sub>2</sub> O) Promethium(III) oxalate	553.88	hydr <i>t</i> → Pm <sub>2</sub> O <sub>3</sub>
2170	PmCl <sub>3</sub> Promethium(III) chloride	251.27	mp 740, bp 1670
2171	PmF <sub>3</sub> Promethium(III) fluoride	201.91	mp 1140, bp 2330
2172	PmI <sub>3</sub> Promethium(III) iodide	525.63	mp 800, bp 1370
2173	Pm(NO <sub>3</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Promethium(III) nitrate	330.93	dec hydr <i>t</i>
2174	Pm <sub>2</sub> O <sub>3</sub> Promethium(III) oxide	337.82	mp ca. 2000
2175	Pm(OH) <sub>3</sub> Promethium(III) hydroxide	195.93	>350 → Pm <sub>2</sub> O <sub>3</sub>
<b>2176</b>	<b>Po Polonium</b>	208.982	mp 254, bp 962
2177	PoBr <sub>2</sub> Polonium(II) bromide	368.79	mp 275
2178	PoBr <sub>4</sub> Polonium(IV) bromide	528.60	mp 360
2179	PoCl <sub>2</sub> Polonium(II) chloride	279.89	subl 196
2180	PoCl <sub>4</sub> Polonium(IV) chloride	350.79	mp 300, bp 390
2181	PoI <sub>4</sub> Polonium(IV) iodide	716.60	dec <i>t</i>
2182	PoO <sub>2+x</sub> Polonium(IV) oxide	240.98	dec 500
2183	PoO(OH) <sub>2</sub> Polonium oxide-dihydroxide	259.00	dec <i>t</i>
2184	PoS Polonium(II) sulfide	241.05	...
2185	Po(SO <sub>4</sub> ) <sub>2</sub> Polonium(IV) sulfate	401.11	dec >550
<b>2186</b>	<b>Pr Praseodymium</b>	140.908	mp 931, bp 3510
2187	PrBr <sub>3</sub> Praseodymium(III) bromide	380.62	mp 693, bp 1550
2188	Pr(BrO <sub>3</sub> ) <sub>3</sub> (·9H <sub>2</sub> O) Praseodymium(III) bromate	524.61	mp hydr 58, -H <sub>2</sub> O 130
2189	PrC <sub>2</sub> Praseodymium dicarbide	164.93	mp 2500 dec
2190	Pr <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> (·10H <sub>2</sub> O) Praseodymium(III) oxalate	545.87	dec hydr >600
2191	PrCl <sub>3</sub> Praseodymium(III) chloride	247.27	mp 786, bp 1630
2192	PrCl <sub>3</sub> ·7H <sub>2</sub> O	373.37	mp 115, dec <i>t</i>
2193	PrF <sub>3</sub> Praseodymium(III) fluoride	197.90	mp 1400, bp 2330
2194	PrF <sub>4</sub> Praseodymium(IV) fluoride	216.90	dec 90
2195	PrI <sub>3</sub> Praseodymium(III) iodide	521.62	mp 733, bp 1380
2196	Pr <sub>2</sub> (MoO <sub>4</sub> ) <sub>3</sub> Praseodymium(III) molybdate	761.62	mp 1030
2197	Pr(NO <sub>3</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Praseodymium(III) nitrate	326.92	-H <sub>2</sub> O 165, dec 400
2198	PrO <sub>2</sub> Praseodymium(IV) oxide	172.91	400 → Pr <sub>6</sub> O <sub>11</sub>
2199	Pr <sub>2</sub> O <sub>3</sub> Praseodymium(III) oxide	329.81	mp >2000, bp ca. 4300
2200	Pr <sub>6</sub> O <sub>11</sub> Hexapraseodymium undecaoxide	1021.44	...
2201	Pr(OH) <sub>3</sub> Praseodymium(III) hydroxide	191.93	dec >350
2202	Pr <sub>2</sub> S <sub>3</sub> Praseodymium(III) sulfide	205.04	mp 1780 dec
2203	Pr <sub>2</sub> S <sub>5</sub> Praseodymium(III) sulfide	378.01	mp ca. 2000
2204	Pr <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> (·8H <sub>2</sub> O) Praseodymium(III) sulfate	570.00	-H <sub>2</sub> O >600, dec >850
<b>2205</b>	<b>Pt Platinum</b>	195.08	mp 1772, bp ca. 3800
2206	PtAs <sub>2</sub> Platinum diarsenide	344.92	dec >800
2207	PtBr <sub>2</sub> Platinum(II) bromide	354.89	dec >250
2208	PtBr <sub>4</sub> (· <i>n</i> H <sub>2</sub> O) Platinum(IV) bromide	514.70	>180 → (Pt <sup>II</sup> Pt <sup>IV</sup> )Br <sub>6</sub>
2209	[PtBr <sub>4</sub> ] <sub>2</sub> ·K <sub>2</sub> (·2H <sub>2</sub> O) Potassium tetrabromoplatinate(II)	592.89	mp hydr ca. 100

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2163	red-brn hydr	r/+	...	+	d/r	-	+	+
2164	dk-grey	i	...	-/+	-/+	+	i/+	...
2165	grey-grn	-	-	-/+	-/+	-/+	-	-
2166	red-brn, 6.5	r	i	-/+	-	-	+	+
2167	wh, 7.26	-/+	...	+	+	+	-	-
2168	grn	d	r	-	-/+	-	+	+
2169	dk-pink hydr	i	i	-/+	-/+	-/+	i	i
2170	yel	r	r	r	-	-	+	+
2171	lt-viol	i	i	i	-	-	-	i
2172	dk-grey	r	r	-	-/+	-/+	+	+
2173	pink hydr	r	r	-	-	r	+	+
2174	lt-viol	-/+	...	+	+	+	-	-
2175	pink	i	...	+	+	+	i	i
2176	wh, 9.32	-	-	+	+	+	-	-
2177	brn	+	...	+	+	+	+	+
2178	red-brn	+	r	+	+	+	+	+
2179	red, 6.5	+	...	+	+	+	+	+
2180	yel	+	r	+	+	+	+	+
2181	blk	i/+	d	+	+	+	+	+
2182	red, 8.96	-	...	+	-/+	-/+	+	...
2183	lt-yel	i	...	+	+	+	+	...
2184	blk	i	i	-/+	-/+	-/+	i	i
2185	wh	d/+	r	+	+	+	+	+
2186	yel-grey, 6.710	psv/+	-	+	+	+	-	-
2187	grn	d	r	-	-/+	-	+	+
2188	grn hydr	r	...	-	-	-	+	+
2189	yel, 5.10	+	...	+	+	+	+	+
2190	lt-grn hydr	i	i	-/+	-/+	-/+	i	i
2191	grn-sk-bl, 4.02	r	r	r	-	-	+	+
2192	grn, 2.25	r	r	r	-	-	+	+
2193	yel	i	i	-	-	i	i	-
2194	wh	i/+	...	+	+	+	-	-
2195	grn	r	r	-	-/+	-/+	+	+
2196	grn, 4.84	i	...	-	-	-	-/+	-
2197	grn hydr	r	r	-	-	r	+	+
2198	blk-brn, 6.82	-	...	+	+	+	-	-
2199	yel-grn, 6.97	-/+	...	+	+	+	-	-
2200	blk-brn	-	...	+	+	+	-	-
2201	grn, 3.73(2.83)	i	...	+	+	+	i	i
2202	dk-brn	i	...	-/+	-/+	-/+	i	i
2203	brn, 5.04	i/+	i	+	+	+	i	i/+
2204	grn hydr	r	...	-	r	-	+	+
2205	wh, 21.45	-	-	-	-	-	-	-
2206	grey, 10.6	-	...	-/+	-/+	-/+	-/+	-
2207	red-brn, 6.65	i	i	+	-/+	+	+	+
2208	blk-viol, 5.69	d/+	r	+	+	+	+	+
2209	blk hydr, 3.75	r	d	-	-/+	-/+	-/+	-/+

No.	Formula and name	$M_r$	Phase transition temperature
2210	[PtBr <sub>6</sub> ],K <sub>2</sub> Potassium hexabromoplatinate <sub>(IV)</sub>	752.70	dec >400
2211	[PtBr <sub>6</sub> ],(NH <sub>4</sub> ) <sub>2</sub> Ammonium hexabromoplatinate <sub>(IV)</sub>	704.53	dec 145
2212	[PtBr <sub>6</sub> ],Na <sub>2</sub> (·6H <sub>2</sub> O) Sodium hexabromoplatinate <sub>(IV)</sub>	720.48	dec hydr 150
2213	[Pt <sub>2</sub> (C <sub>2</sub> H <sub>4</sub> ) <sub>2</sub> Cl <sub>4</sub> ] Diethylenetetrachlorodiplatinum	588.08	dec 200
2214	[Pt(C <sub>2</sub> H <sub>4</sub> )Cl <sub>3</sub> ],K (·H <sub>2</sub> O) Potassium ethylenetrichloroplatinate <sub>(II)</sub>	368.59	-H <sub>2</sub> O 100; >220 → PtCl <sub>2</sub>
2215	[Pt(CN) <sub>4</sub> ],Ba (·4H <sub>2</sub> O) Barium tetracyanoplatinate <sub>(II)</sub>	436.48	-H <sub>2</sub> O 120, dec >420
2216	[Pt(CN) <sub>4</sub> ],H <sub>2</sub> (·5H <sub>2</sub> O) Hydrogen tetracyanoplatinate <sub>(II)</sub>	301.17	mp hydr 100 dec
2217	[Pt(CN) <sub>4</sub> ],K <sub>2</sub> (·3H <sub>2</sub> O) Potassium tetracyanoplatinate <sub>(II)</sub>	377.35	-H <sub>2</sub> O 100, dec >400
2218	[Pt(CN) <sub>6</sub> ],K <sub>2</sub> Potassium hexacyanoplatinate <sub>(IV)</sub>	429.38	dec 395
2219	[Pt(CN) <sub>4</sub> ],Mg (·7H <sub>2</sub> O) Magnesium tetracyanoplatinate <sub>(II)</sub>	323.46	-H <sub>2</sub> O 270
2220	[Pt(CN) <sub>4</sub> ],(NH <sub>4</sub> ) <sub>2</sub> Ammonium tetracyanoplatinate <sub>(II)</sub>	335.23	dec 200
2221	[Pt(CN) <sub>4</sub> ],Na <sub>2</sub> (·3H <sub>2</sub> O) Sodium tetracyanoplatinate <sub>(II)</sub>	345.13	-H <sub>2</sub> O 125, dec 400
2222	[Pt <sub>2</sub> (CO) <sub>2</sub> Br <sub>4</sub> ] Dicarboxyltetrabromodiplatinum	765.80	mp 177.7 dec
2223	[Pt(CO) <sub>2</sub> Cl <sub>2</sub> ] Dicarboxyldichlorodiplatinum	322.01	mp 103, dec 210
2224	[Pt <sub>2</sub> (CO) <sub>2</sub> Cl <sub>4</sub> ] Dicarboxyltetrachlorodiplatinum	587.99	mp 194, dec >300
2225	[Pt <sub>2</sub> (CO) <sub>2</sub> Cl <sub>4</sub> ] Tricarboxyltetrachlorodiplatinum	616.00	mp 130, dec 250
2226	[Pt <sub>2</sub> (CO) <sub>2</sub> I <sub>4</sub> ] Dicarboxyltetraiododiplatinum	953.80	mp 140-150 dec
2227	PtCl <sub>2</sub> Platinum <sub>(II)</sub> chloride	265.99	dec 581
2228	PtCl <sub>4</sub> (·10H <sub>2</sub> O) Platinum <sub>(IV)</sub> chloride	336.89	380 → (Pt <sup>III</sup> Pt <sup>IV</sup> )Cl <sub>6</sub>
2229	[PtCl <sub>4</sub> ],Ba (·3H <sub>2</sub> O) Barium tetrachloroplatinate <sub>(II)</sub>	474.22	-H <sub>2</sub> O 150
2230	[PtCl <sub>6</sub> ],Ba (·6H <sub>2</sub> O) Barium hexachloroplatinate <sub>(IV)</sub>	545.13	-H <sub>2</sub> O ca. 100
2231	[PtCl <sub>6</sub> ],Cs <sub>2</sub> Cesium hexachloroplatinate <sub>(IV)</sub>	673.61	dec 570
2232	[PtCl <sub>6</sub> ],H <sub>2</sub> (·6H <sub>2</sub> O) Hydrogen hexachloroplatinate <sub>(IV)</sub>	409.81	mp hydr 60, dec hydr >115
2233	[PtCl <sub>4</sub> ],K <sub>2</sub> Potassium tetrachloroplatinate <sub>(II)</sub>	415.09	dec 475
2234	[PtCl <sub>6</sub> ],K <sub>2</sub> Potassium hexachloroplatinate <sub>(IV)</sub>	485.99	dec ca. 250
2235	[PtCl <sub>6</sub> ],Li <sub>2</sub> (·6H <sub>2</sub> O) Lithium hexachloroplatinate <sub>(IV)</sub>	421.68	-H <sub>2</sub> O 180, dec <i>t</i>
2236	[PtCl <sub>6</sub> ],Mg (·6H <sub>2</sub> O) Magnesium hexachloroplatinate <sub>(IV)</sub>	432.10	-H <sub>2</sub> O ca. 90; dec >400
2237	[PtCl <sub>4</sub> ],(NH <sub>4</sub> ) <sub>2</sub> Ammonium tetrachloroplatinate <sub>(II)</sub>	372.97	dec ca. 140
2238	[PtCl <sub>6</sub> ],(NH <sub>4</sub> ) <sub>2</sub> Ammonium hexachloroplatinate <sub>(IV)</sub>	443.88	215 → Pt,NH <sub>4</sub> Cl
2239	[PtCl <sub>4</sub> ],Na <sub>2</sub> (·4H <sub>2</sub> O) Sodium tetrachloroplatinate <sub>(II)</sub>	382.87	mp hydr 100 dec
2240	[PtCl <sub>6</sub> ],Na <sub>2</sub> (·6H <sub>2</sub> O) Sodium hexachloroplatinate <sub>(IV)</sub>	453.78	-H <sub>2</sub> O 100, dec < 270
2241	[PtCl <sub>6</sub> ],Rb <sub>2</sub> Rubidium hexachloroplatinate <sub>(IV)</sub>	578.73	dec 495
2242	PtF <sub>4</sub> Platinum <sub>(IV)</sub> fluoride	271.07	subl 300
2243	PtF <sub>5</sub> Platinum <sub>(V)</sub> fluoride	290.07	mp 80, dec 130
2244	PtF <sub>6</sub> Platinum <sub>(VI)</sub> fluoride	309.07	mp 61.3; bp 69.1
2245	[PtF <sub>6</sub> ],K Potassium hexafluoroplatinate <sub>(IV)</sub>	348.17	dec 750 (→ PtF <sub>4</sub> )
2246	[PtF <sub>6</sub> ],K <sub>2</sub> Potassium hexafluoroplatinate <sub>(IV)</sub>	387.26	dec 800
2247	[Pt <sup>V</sup> F <sub>6</sub> ],O <sub>2</sub> Dioxygenyl hexafluoroplatinate <sub>(V)</sub>	341.07	subl 100, mp 219 (p)
2248	[Pt <sup>V</sup> F <sub>6</sub> ],Xe Xenon <sub>(I)</sub> hexafluoroplatinate <sub>(V)</sub>	440.36	dec 165
2249	PtI <sub>2</sub> Platinum <sub>(II)</sub> iodide	448.89	dec 360
2250	PtI <sub>4</sub> Platinum <sub>(IV)</sub> iodide	702.70	270 → (Pt <sup>III</sup> Pt <sup>IV</sup> )I <sub>6</sub>

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2210	red-brn, 4.66	d/+	i	-	-/+	-/+	-/+	-/+
2211	red-brn, 4.27	d/+	i	-	-/+	-/+	-/+	-/+
2212	red hydr, 3.32	r/+	r	-	-/+	-/+	-/+	-/+
2213	orange	+	r	+	+	+	+	+
2214	yel hydr, 2.88	r	r	-	-/+	-/+	+	-/+
2215	viol-yel, 2.08	d	i	-	+	-/+	-	-
2216	red hydr	r	r	-	+	-/+	+	+
2217	lt-yel, 2.46	r	d	-	+	-/+	-	-
2218	lt-yel	r	...	-	-/+	-/+	-	-
2219	red hydr, 2.18	r	r	-	-/+	-	+	+
2220	wh	r	...	-	+	-/+	-	-
2221	wh hydr, 2.65	r	r	-	+	-/+	-	-
2222	lt-red	+	r	+	+	+	+	+
2223	wh, 3.49	+	i	+	+	+	+	+
2224	yel-orange, 4.24	+	r	+	+	+	+	+
2225	orange-yel	+	+	+	+	+	+	+
2226	red	d	+	-	-/+	-/+	+	+
2227	grey-brn, 6.05	i	i	+	-	-	+	+
2228	red-brn, 4.30(2.43)	r	d	+	+	+	+	+
2229	dk-red hydr, 2.87	r	r	r	+	-	+	-/+
2230	orange-yel hydr, 2.86	r/+	r	r	+	-	+	-/+
2231	yel, 4.20	i/+	i	-	-	-	+	+
2232	orange-yel hydr, 2.43	r/+	r	r	+	+	+	+
2233	dk-red, 3.38	d/r	i	-	-	-	+	+
2234	yel, 3.50	d/+	i	-	-	-	+	+
2235	yel hydr	r/+	r	r	-	-	+	+
2236	yel hydr, 2.69	r/+	...	r	-	-	-/+	-/+
2237	red, 2.94	r	i	r	-	-	+	-/+
2238	yel, 3.07	d/+	i	-	-	-	+	+
2239	red hydr	r	...	r	-	-	+	-/+
2240	orange hydr, 2.50	r/+	r	r	-	-	+	+
2241	yel, 3.94	i/+	i	-	-	-	+	+
2242	brn	+	...	+	+	+	+	+
2243	dk-red	+	+	+	+	+	+	+
2244	dk-red	+	+	+	+	+	+	+
2245	yel-brn	+	+	+	+	+	+	+
2246	lt-yel	d/+	...	...	-	-	+	-/+
2247	orange	+	+	+	+	+	+	+
2248	red	+	+	+	+	+	+	+
2249	blk, 6.40	i	i	-	-/+	-/+	-	-
2250	blk, 6.55-6.70	i	r	+	+	+	+	-

No.	Formula and name	$M_r$	Phase transition temperature
2251	<i>trans</i> -[Pt(NH <sub>3</sub> ) <sub>2</sub> Cl <sub>2</sub> ] <i>trans</i> -Diamminedichloroplatinum	300.05	>340 → Pt
2252	<i>cis</i> -[Pt(NH <sub>3</sub> ) <sub>2</sub> Cl <sub>2</sub> ] <i>cis</i> -Diamminedichloroplatinum	300.05	275 → <i>trans</i> -isomer
2253	<i>trans</i> -[Pt(NH <sub>3</sub> ) <sub>2</sub> Cl <sub>4</sub> ] <i>trans</i> -Diamminetetrachloroplatinum	370.95	>340 → Pt
2254	<i>cis</i> -[Pt(NH <sub>3</sub> ) <sub>2</sub> Cl <sub>4</sub> ] <i>cis</i> -Diamminetetrachloroplatinum	370.95	>240 → Pt
2255	[Pt(NH <sub>3</sub> ) <sub>4</sub> ]Cl <sub>2</sub> (·H <sub>2</sub> O) Tetraammineplatinum(II) chloride	334.11	-H <sub>2</sub> O 110, 250 → <i>trans</i> -[Pt(NH <sub>3</sub> ) <sub>2</sub> Cl <sub>2</sub> ]
2256	[Pt(NH <sub>3</sub> ) <sub>2</sub> (NO <sub>2</sub> ) <sub>2</sub> ] Diamminedinitroplatinum	321.15	dec ca. 200
2257	[Pt(NH <sub>3</sub> ) <sub>4</sub> ][Pt <sup>IV</sup> Cl <sub>4</sub> ] Tetraammineplatinum(II) tetrachloroplatinate(IV)	600.10	290 → <i>trans</i> -[Pt(NH <sub>3</sub> ) <sub>2</sub> Cl <sub>2</sub> ]
2258	[Pt(NO <sub>2</sub> ) <sub>4</sub> ],K <sub>2</sub> Potassium tetranitroplatinate(II)	457.30	dec >150
2259	[Pt(NO <sub>2</sub> ) <sub>4</sub> ],Na <sub>2</sub> Sodium tetranitroplatinate(II)	425.08	dec hydr 100
2260	PtO Platinum(II) oxide	211.08	560 → Pt
2261	PtO <sub>2</sub> Platinum(IV) oxide	227.08	mp 450; 650 → Pt
2262	PtO <sub>2</sub> ·H <sub>2</sub> O	245.09	dec 120
2263	PtO <sub>2</sub> ·2H <sub>2</sub> O	263.11	dec 200
2264	PtO <sub>2</sub> ·3H <sub>2</sub> O	281.12	dec 300
2265	PtO <sub>2</sub> ·4H <sub>2</sub> O	299.14	dec 420
2266	PtO <sub>3</sub> Platinum(VI) oxide	243.08	>20 → PtO <sub>2</sub>
2267	Pt(OH) <sub>2</sub> Platinum(II) hydroxide	229.09	dec >150
2268	[Pt(OH) <sub>6</sub> ],K <sub>2</sub> Potassium hexahydroxoplatinate(IV)	375.32	dec 160
2269	[Pt(OH) <sub>6</sub> ],Na <sub>2</sub> Sodium hexahydroxoplatinate(IV)	343.10	dec 150-170
2270	PtP <sub>2</sub> Platinum diphosphide	257.03	mp >1500
2271	[Pt(PF <sub>3</sub> ) <sub>4</sub> ] Tetrakis(trifluorophosphorus)platinum	546.95	mp -15, dec 90
2272	PtP <sub>2</sub> O <sub>7</sub> Platinum(IV) diphosphate	369.02	dec 600
2273	(Pt <sup>II</sup> Pt <sup>IV</sup> )Br <sub>6</sub> Platinum(II)-platinum(IV) bromide	869.58	>210 → PtBr <sub>2</sub>
2274	(Pt <sup>II</sup> Pt <sup>IV</sup> )Cl <sub>6</sub> Platinum(II)-platinum(IV) chloride	602.88	subl 350; 435 → PtCl <sub>2</sub>
2275	(Pt <sup>II</sup> Pt <sup>IV</sup> )I <sub>6</sub> Platinum(II)-platinum(IV) iodide	1151.58	270 → PtI <sub>2</sub>
2276	PtS Platinum(II) sulfide	227.15	800 → Pt
2277	PtS <sub>2</sub> Platinum(IV) sulfide	259.21	ca. 230 → Pt
2278	PtSe <sub>2</sub> Platinum(IV) selenide	353.00	>400 → Pt
2279	PtTe <sub>2</sub> Platinum(IV) telluride	450.28	mp ca. 1250
<b>2280</b>	<b>Pu Plutonium</b>	244.064	mp 640, bp ca. 3350
2281	PuBr <sub>3</sub> (·6H <sub>2</sub> O) Plutonium(III) bromide	483.78	mp 681, bp 1531
2282	PuC <sub>0.85</sub> Plutonium 0.85-carbide	254.27	dec 1654
2283	Pu(C <sub>2</sub> O <sub>4</sub> ) <sub>2</sub> (·6H <sub>2</sub> O) Plutonium(IV) oxalate	420.10	hydr 380 → PuO <sub>2</sub>
2284	PuCl <sub>3</sub> Plutonium(III) chloride	350.42	mp 760, bp 1770
2285	PuF <sub>3</sub> Plutonium(III) fluoride	301.06	mp 1426, bp 2300
2286	PuF <sub>4</sub> (·2.5H <sub>2</sub> O) Plutonium(IV) fluoride	320.06	mp 1037, bp 1277
2287	PuF <sub>6</sub> Plutonium(VI) fluoride	358.05	mp 51.59; bp 62.16
2288	PuI <sub>3</sub> Plutonium(III) iodide	624.78	mp 777
2289	PuN Plutonium mononitride	258.07	mp 2585 (p)
2290	Pu(NO <sub>3</sub> ) <sub>4</sub> (·5H <sub>2</sub> O) Plutonium(IV) nitrate	492.08	dec hydr 150-180
2291	PuO Plutonium(II) oxide	260.06	mp ca. 1900
2292	PuO <sub>2+x</sub> Plutonium(IV) oxide	276.06	mp 2390
2293	Pu(OH) <sub>3</sub> Plutonium(III) hydroxide	295.09	dec >350

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> , H <sub>2</sub> O
2251	yel	i/d	...	-	-/+	+	-/+	+
2252	yel	i/d	...	-	-/+	+	-/+	+
2253	yel-grn, 3.51	d	...	-/r	-/+	-/+	-/+	r/+
2254	yel (t → grn), 3.42	d	...	-	+	+	-/+	+
2255	wh hydr, 2.74	r	i	+	+	+	-/+	r
2256	lt-yel	i	...	+	-/+	+	-/+	+
2257	dk-grn	d	...	+	+	+	+	-
2258	wh	d	i	-	-/+	-/+	-/+	-/+
2259	lt-yel	r	i	-	-/+	-/+	-/+	-/+
2260	viol-blk, 14.9	-	...	-	-	-	-	-
2261	blk, 10.2	-	...	-	-	-	-	-
2262	dk-brn	i	...	-	-/+	-	-/+	i
2263	brn	i	...	-	+	-/+	-/+	i
2264	yel	i	...	-/+	+	-/+	+	i
2265	wh	i	...	+	+	+	+	+
2266	red-brn	-	...	+	+	+	-	-
2267	blk	i	...	-/+	-/+	-/+	+	i
2268	yel-grn, 5.18	r	i	+	+	+	r	r
2269	yel	r	i	-/+	+	+	r	r
2270	grey, 9.01	-	...	-	-	-/+	-	-
2271	cl lq	i/+	...	+	+	+	+	+
2272	yel-grn	i	...	-	-/+	-/+	-/+	-
2273	blk	i/+	i	+	+	+	+	+
2274	dk-grn, 5.256	d/r	...	+	+	+	+	+
2275	blk	i	i	+	+	+	+	+
2276	blk, 8.85	i	...	-	-	-	-	-
2277	grey-brn, 7.66	-	...	-	-	-/+	-	-
2278	blk	-	...	-	-/+	-/+	-/+	-
2279	blk	-	...	-	-/+	-/+	-/+	-
2280	wh, 19.86	psv/+	...	+	+ / psv	psv	-	-
2281	lt-grn, 6.69(9.07)	r	...	-	-/+	-	+	+
2282	blk, ca. 13.6	-/+	i	-	-/+	-/+	-	-
2283	yel-grn hydr	i	...	i	-/+	-/+	+	-/+
2284	bl-grn, 5.70	r	r	r	-	-	+	+
2285	viol-grn, 9.32	i/+	...	-	-	-	i	i
2286	pink-brn, 7.1(4.89)	i	i	-	i	-	-	-
2287	orange-red, 4.86	+	+	+	+	+	+	+
2288	lt-grn, 6.92	r	...	-	-/+	-/+	+	+
2289	blk, 14.25	+	i	+	+	+	-	-
2290	yel-grn hydr	r	...	-	-	r	+	+
2291	blk, 13.89	-	...	-/+	+	+	-	-
2292	dk-grn, 11.46	-	i	-	-/+	+	-	-
2293	grey-sk-bl	i	...	+	+	+	i	i

No.	Formula and name	$M_r$	Phase transition temperature
2294	Pu(OH) <sub>4</sub> Plutonium(IV) hydroxide	312.09	800 → PuO <sub>2</sub>
2295	PuO <sub>2</sub> (NO <sub>3</sub> ) <sub>2</sub> · (6H <sub>2</sub> O) Plutonyl nitrate	400.07	mp hydr 140, -H <sub>2</sub> O >150
2296	PuS Plutonium(III) sulfide	276.13	mp 2350
<b>2297</b>	<b>Ra Radium</b>	226.025	mp 969, bp 1536
2298	RaBr <sub>2</sub> · (2H <sub>2</sub> O) Radium bromide	385.83	mp 728
2299	RaCO <sub>3</sub> Radium carbonate	286.03	dec >1500
2300	RaCl <sub>2</sub> · (2H <sub>2</sub> O) Radium chloride	296.93	mp ca. 900
2301	Ra(IO <sub>3</sub> ) <sub>2</sub> Radium iodate	575.83	dec <i>t</i>
2302	Ra(N <sub>3</sub> ) <sub>2</sub> Radium azide	310.07	dec <i>t</i>
2303	RaO Radium oxide	242.02	...
2304	Ra(OH) <sub>2</sub> Radium hydroxide	260.04	<i>t</i> → RaO
2305	RaS Radium sulfide	258.09	mp ca. 2000 dec
2306	RaSO <sub>4</sub> Radium sulfate	322.09	dec >1600
<b>2307</b>	<b>Rb Rubidium</b>	85.468	mp 39.3; bp 696
2308	RbAl(SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Rubidium-aluminum sulfate	304.57	mp hydr 99, dec hydr <i>t</i>
2309	RbBr Rubidium bromide	165.37	mp 693, bp 1352
2310	RbBrO <sub>3</sub> Rubidium bromate	213.37	mp 430
2311	Rb(CH <sub>3</sub> COO) Rubidium acetate	144.51	mp 246
2312	Rb <sub>2</sub> CO <sub>3</sub> · (2H <sub>2</sub> O) Rubidium carbonate	230.94	mp 873, dec 900
2313	RbCl Rubidium chloride	120.92	mp 718, bp 1395
2314	RbClO <sub>3</sub> Rubidium chlorate	168.92	dec >500
2315	RbClO <sub>4</sub> Rubidium perchlorate	184.92	mp 597,900 → RbCl
2316	Rb <sub>2</sub> CrO <sub>4</sub> Rubidium chromate	286.93	mp 994
2317	Rb <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> Rubidium dichromate	386.92	mp 396
2318	RbCr(SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Rubidium-chromium(III) sulfate	329.59	mp hydr 107, dec hydr <i>t</i>
2319	RbF · (1.5H <sub>2</sub> O) Rubidium fluoride	104.47	mp 798, bp 1430
2320	RbFe(SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Rubidium-iron(III) sulfate	333.44	mp hydr 50, dec hydr <i>t</i>
2321	RbFe(SeO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Rubidium-iron(III) selenate	427.23	mp hydr 4.5; -H <sub>2</sub> O 100
2322	RbH Rubidium hydride	86.48	>200 → Rb
2323	RbHCO <sub>3</sub> · (H <sub>2</sub> O) Rubidium hydrocarbonate	146.48	dec >175
2324	Rb(HF <sub>2</sub> ) Rubidium hydrodifluoride	124.47	mp 204.5
2325	RbI Rubidium iodide	212.37	mp 656, bp 1327
2326	RuIO <sub>3</sub> Rubidium iodate	260.37	dec >700
2327	RuIO <sub>4</sub> Rubidium metaperiodate	276.37	dec >805
2328	RbMnO <sub>4</sub> Rubidium permanganate	204.40	dec ca. 300
2329	RbMn(SO <sub>4</sub> ) <sub>2</sub> · (12H <sub>2</sub> O) Rubidium-manganese(III) sulfate	332.53	mp hydr 22 dec
2330	RbN <sub>3</sub> Rubidium azide	127.49	mp 321, dec 395
2331	RbNH <sub>2</sub> Rubidium amide	101.49	mp 309
2332	RbNO <sub>2</sub> Rubidium nitrite	131.47	mp 422
2333	RbNO <sub>3</sub> Rubidium nitrate	147.47	mp 313; >600 → RbNO <sub>2</sub>
2334	RbO <sub>2</sub> Rubidium superoxide	117.47	mp 540 ( <i>p</i> ), dec >400
2335	RbO <sub>3</sub> Rubidium ozonide	133.47	dec >70
2336	Rb <sub>2</sub> O Rubidium oxide	186.94	mp 505 dec
2337	Rb <sub>2</sub> O <sub>2</sub> Rubidium peroxide	202.93	mp 570, bp 1010 dec

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2294	dk-grn	i	...	+	+	+	i	i
2295	pink-brn hydr	r	r	-	-	+	+	+
2296	yel-brn, 10.6	i	i	+	+	+	i	i
<b>2297</b>	wh, ca. 6	+	+	+	+	+	+	+
2298	lt-yel, 5.78	r	r	r	-/+	-	r	r
2299	wh	i	...	+	+	+	i	i
2300	wh, 4.91	r	r	r	-	-	r	-
2301	wh	i/d	...	i/d	-/+	-/+	i/d	-
2302	wh	r	r	-/+	-/+	-/+	-	-
2303	wh	+	...	+	+	+	+	+
2304	wh	r	...	+	+	+	r	r
2305	wh	+	...	+	+	+	r	r
2306	wh	i	...	-	i	-	i	i
<b>2307</b>	wh, 1.532	+	+	+	+	+	+	+
2308	wh hydr, 1.89	d/r	i	-	d/r	-	+	+
2309	wh, 3.35	r	d	r	-/+	-	r	r
2310	wh, 3.68	r	...	-	-	-	-	-
2311	wh	r	r	r	-	r	r	-
2312	wh	r	d	+	+	+	r	r
2313	wh, 2.76	r	d	r	-/+	-	-	-
2314	wh, 3.19	r	r	-/+	-	r	-	-
2315	wh, 2.9	d/r	d	-	-	-	-	-
2316	yel, 3.52	r	...	+	+	+	r	r
2317	orange, 3.02	r	...	r/+	r	r	+	+
2318	viol hydr, 1.95	r	...	-	r	-	+	+
2319	wh, 3.56	r	i	r	r	r	r	r
2320	wh hydr, 1.93	r	...	-	r	-	+	+
2321	wh hydr, 2.31	r	...	-/+	r	-	+	+
2322	wh, 2.59	+	...	+	+	+	+	+
2323	wh	r	r	+	+	+	+	+
2324	wh	r	i	-/+	-/+	-/+	+	+
2325	wh, 3.55	r	r	r	r/+	r/+	r	r
2326	wh, 4.33	d	...	-/+	d	d	-	-
2327	wh, 3.92	d	d	d	d	d	d	d
2328	red-viol, 3.24	d	...	-/+	-	r	-	-/+
2329	dk-red hydr	+	i	+	+	+	+	+
2330	wh, 2.48	r	...	+	+	+	-	-
2331	lt-grn	+	+	+	+	+	+	+
2332	wh	r	...	-/+	-/+	-/+	r	r
2333	wh, 3.11	r	d	-	-	r	r	r
2334	orange-yel, 3.06	+	...	+	+	+	+	+
2335	red, 2.75	+	+	+	+	+	+	+
2336	wh, 3.72	+	+	+	+	+	+	+
2337	yel, 3.80	+	...	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
2338	RbOH ( $\cdot H_2O$ ) Rubidium hydroxide	102.48	mp hydr 145, mp 382
2339	RbOH $\cdot 2H_2O$	138.51	47 $\rightarrow$ PbOH $\cdot H_2O$
2340	Rb $_2S$ ( $\cdot 4H_2O$ ) Rubidium sulfide	203.00	dec hydr 200, mp 530
2341	Rb $_2(S_5)$ Rubidium pentasulfide(2-)	331.27	mp 231
2342	Rb $_2SO_4$ Rubidium sulfate	267.00	mp 1066, bp ca. 1700
2343	Rb $_2S_2O_7$ Rubidium disulfate	347.06	>400 $\rightarrow$ Rb $_2SO_4$
2344	Rb(SO $_3$ F) Rubidium fluorosulfonate	184.53	mp 304
2345	Rb $_2SeO_4$ Rubidium selenate	313.89	mp 1050
2346	RbV(SO $_4$ ) $_2$ ( $\cdot 12H_2O$ ) Rubidium-vanadium(III) sulfate	328.53	mp hydr 64
<b>2347</b>	<b>Re Rhenium</b>	186.207	mp 3190, bp ca. 5900
2348	ReBr $_3$ Rhenium(III) bromide	425.92	subl >400
2349	ReBr $_4$ Rhenium(IV) bromide	505.82	>250 $\rightarrow$ Re
2350	Re(Br)O $_3$ Rhenium bromide-trioxide	314.11	mp 39.5; bp 163
2351	[Re(CN) $_4$ O $_2$ ] $_3$ K $_3$ Potassium tetracyanodioxorhenate(V)	439.57	dec >300
2352	[Re $_2$ (CO) $_{10}$ ] Decacarbonyldirhenium	652.51	mp 177, 250 $\rightarrow$ Re
2353	[Re(CO) $_5$ Br] Pentacarbonylbromorhenium	406.16	subl >60
2354	[Re(CO) $_3$ C $_3$ H $_5$ ] $_3$ Tricarbonyl(cyclopentadienyl)rhenium	335.33	mp 111
2355	[Re(CO) $_5$ Cl] Pentacarbonylchlororhenium	361.71	subl >50
2356	[Re(CO) $_5$ I] Pentacarbonyliodorhenium	453.16	subl $\leq$ 60, $t \rightarrow$ [Re $_2$ (CO) $_{10}$ ]
2357	ReCl $_4$ Rhenium(IV) chloride	328.02	mp 22, 300 $\rightarrow$ [Re $_3$ Cl $_9$ ], ReCl $_5$
2358	ReCl $_5$ Rhenium(V) chloride	363.47	mp 278, bp 330 dec
2359	[Re $_3$ Cl $_9$ ] Nonachlorotrirhenium	877.70	mp 257, bp 327, dec >360
2360	[Re(Cl) $_6$ ] $_2$ K $_2$ Potassium hexachlororhenate(IV)	477.12	dec >300
2361	[Re $_2$ Cl $_8$ ] $_2$ K $_2$ ( $\cdot 2H_2O$ ) Potassium octachlorodirhenate(III)	734.23	$-H_2O$ 130, dec >290
2362	Re(Cl)O $_3$ Rhenium chloride-trioxide	269.66	mp 4.5; bp 131
2363	ReCl $_4$ O Rhenium tetrachloride-oxide	344.02	mp 29.3; bp 228, dec >300
2364	[ReCl $_5$ O] $_2$ Cs $_2$ Cesium pentachlorooxorhenate(V)	645.28	mp >300
2365	ReF $_4$ Rhenium(IV) fluoride	262.20	mp 125, dec 500
2366	ReF $_5$ Rhenium(V) fluoride	281.20	mp 48, bp 221
2367	ReF $_6$ Rhenium(VI) fluoride	300.20	mp 18.6; bp 33.7
2368	ReF $_7$ Rhenium(VII) fluoride	319.19	mp 48.3; bp 73.7
2369	[ReH(CO) $_5$ ] Hydropentacarbonylrhenium	327.27	mp 13, dec $t$
2370	[ReH $_9$ ] $_2$ K $_2$ Potassium nonahydridorhenate(VII)	273.48	dec >300
2371	[ReH $_9$ ] $_2$ Na $_2$ Sodium nonahydridorhenate(VII)	241.26	dec 245
2372	ReI $_3$ Rhenium(III) iodide	566.92	800 $\rightarrow$ Re
2373	[ReI $_6$ ] $_2$ K $_2$ Potassium hexaiodorhenate(IV)	1025.83	dec $t$
2374	ReO $_2$ ( $\cdot nH_2O$ ) Rhenium(V) oxide	218.21	$-H_2O$ 500; >850 $\rightarrow$ Re $_2O_7$ , Re
2375	ReO $_3$ Rhenium(VI) oxide	234.20	mp 160, >300 $\rightarrow$ Re $_2O_7$ , ReO $_2$
2376	Re $_2O_3$ ( $\cdot nH_2O$ ) Rhenium(III) oxide	420.41	dec hydr >25
2377	Re $_2O_7$ Rhenium(VII) oxide	484.41	mp 301.5; bp 358.5
2378	Re(O)F $_4$ Rhenium oxide-tetrafluoride	278.20	mp 108, bp 171.2

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2338	wh, 3.20	r	r	+	+	+	r	r
2339	wh	r	r	+	+	+	-	-
2340	wh, 2.91	r/+	r	+	+	+	r	r
2341	red, 2.62	r/+	d	+	+	+	-	-
2342	wh, 3.61	r	d	-	r	-	r	-
2343	wh	r/+	...	+	+	+	+	+
2344	wh	r/+	...	-/+	-/+	-/+	-/+	...
2345	wh, 3.90	r	...	-/+	-/+	-	-	-
2346	yel hydr, 1.92	d	i	-	r	-/+	+	+
2347	lt-grey, 20.53	-	...	-	-/+	-/+	-/+	-
2348	blk	+	r	+	+	+	+	+
2349	blk, 5.47	+	...	+	+	+	+	+
2350	wh	+	...	+	+	+	+	+
2351	orange-brn, 2.70	r	d	-	-/+	-/+	-	-
2352	wh	-	r	-	-/+	-/+	+	-
2353	wh	-	r	-	-/+	-/+	-/+	...
2354	wh	-/+	r	-/+	-/+	-/+	-/+	...
2355	wh	-	r	-	-/+	-/+	-/+	...
2356	wh	-	r	-	-/+	-/+	-/+	...
2357	grn-blk	+	...	+	+	+	+	+
2358	brn-blk, 3.98	+	...	+	+	+	+	+
2359	red-viol	r/+	r	-	-	-	+	+
2360	yel-grn, 3.34	d/+	...	d/r	-	r/+	+	+
2361	dk-grn, 3.5	r	r	r/d	r/+	r/+	+	+
2362	cl lq, 3.87 <sup>20</sup>	+	+	+	+	+	+	+
2363	brn-red, 3.76	+	+	+	+	+	+	+
2364	yel	+	...	+/r	+	+	+	+
2365	dk-grn, 5.38	+	...	+	+	+	+	+
2366	yel-grn	+	...	+	+	+	+	+
2367	yel lq, 3.58 <sup>22</sup>	+	+	+	+	+	+	+
2368	yel	+	+	+	+	+	+	+
2369	cl lq	+	r	+	+	+	+	+
2370	wh, 3.07	r/+	d/+	+	+	+	r/+	r/+
2371	wh	r/+	d/+	+	+	+	r/+	r/+
2372	blk, 6.37	r	i	-/+	-/+	-/+	+	+
2373	blk, 4.4	+	d	+	+	+	+	+
2374	blk-brn, 11.4	-	...	-/+	-/+	-/+	-	-
2375	red, 7.43	-	...	-	-	+	-/+	...
2376	blk hydr	i	...	-	-	+	-	-
2377	lt-yel, 6.14	-/+	i	+	+	+	+	-
2378	sk-bl, 4.03	+	...	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
2379	Re(O)F <sub>5</sub> Rhenium oxide-pentafluoride	297.20	mp 41, bp 73
2380	ReO <sub>2</sub> F <sub>2</sub> Rhenium dioxide-difluoride	256.20	mp 156
2381	ReO <sub>2</sub> F <sub>3</sub> Rhenium dioxide-trifluoride	275.20	mp 90, bp 185
2382	ReO <sub>3</sub> F Rhenium trioxide-fluoride	253.20	mp 147, bp 164
2383	Re(OH) <sub>4</sub> Rhenium(IV) hydroxide	254.24	>400 → ReO <sub>2</sub>
2384	[Re <sub>2</sub> (PF <sub>3</sub> ) <sub>10</sub> ] Decakis(trifluorophosphorus)dirhenium	1252.09	mp 182
2385	ReS <sub>2</sub> Rhenium(IV) sulfide	250.34	>1000 → Re
2386	Re <sub>2</sub> S <sub>7</sub> Rhenium(VII) sulfide	596.88	250 → ReS <sub>2</sub>
<b>2387</b>	<b>Rh Rhodium</b>	102.906	mp 1963, bp ca. 3700
2388	RhBr <sub>3</sub> Rhodium(III) bromide	342.62	>800 → Rh
2389	[Rh <sub>2</sub> (CO) <sub>8</sub> ] Octacarbonyldirrhodium	429.89	mp 76, dec >100
2390	[Rh <sub>4</sub> (CO) <sub>12</sub> ] Dodecacarbonyltrirrhodium	747.74	mp 76; 150 → [Rh <sub>6</sub> (CO) <sub>16</sub> ]
2391	[Rh <sub>6</sub> (CO) <sub>16</sub> ] 16-Carbonylhexarhodium	1065.60	220 → Rh
2392	[Rh(CO) <sub>2</sub> C <sub>5</sub> H <sub>5</sub> ] Dicarbonyl(cyclopentadienyl)rhodium	224.02	mp -11, bp ca. 240
2393	[Rh <sub>2</sub> (CO) <sub>3</sub> (C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ] Tricarbonylbis(cyclopentadienyl)dirrhodium	420.03	mp 139
2394	[Rh <sub>2</sub> (CO) <sub>4</sub> Cl <sub>2</sub> ] Tetracarbonyldichlorodirrhodium	388.76	mp 121
2395	[Rh(C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> ],K <sub>3</sub> (·4.5H <sub>2</sub> O) Potassium tris(oxalato)rhodate(III)	484.25	-H <sub>2</sub> O 190
2396	RhCl <sub>3</sub> (· <i>n</i> H <sub>2</sub> O) Rhodium(III) chloride	209.27	-H <sub>2</sub> O 180, 970 → Rh
2397	[RhCl <sub>6</sub> ],Cs <sub>2</sub> Cesium hexachlororhodate(IV)	581.43	dec >200
2398	[RhCl <sub>6</sub> ],K <sub>3</sub> (·3H <sub>2</sub> O) Potassium hexachlororhodate(III)	432.92	dec ca. 600
2399	[RhCl <sub>6</sub> ],Na <sub>3</sub> (·12H <sub>2</sub> O) Sodium hexachlororhodate(III)	384.59	dec hydr 550
2400	RhF <sub>3</sub> Rhodium(III) fluoride	159.90	subl >600
2401	RhF <sub>4</sub> Rhodium(IV) fluoride	178.90	subl 700
2402	Rh(HS) <sub>3</sub> Rhodium(III) hydrosulfide	202.13	<i>t</i> → Rh <sub>2</sub> S <sub>3</sub>
2403	RhI <sub>3</sub> Rhodium(III) iodide	483.62	>650 → Rh, I <sub>2</sub>
2404	[Rh(NH <sub>3</sub> ) <sub>6</sub> ]Cl <sub>3</sub> Hexaamminerhodium(III) chloride	311.45	dec >200
2405	Rh(NO <sub>3</sub> ) <sub>3</sub> Rhodium(III) nitrate	288.92	>600 → Rh <sub>2</sub> O <sub>3</sub>
2406	[Rh(NO <sub>2</sub> ) <sub>6</sub> ],K <sub>3</sub> Potassium hexanitrorhodate(III)	496.23	dec 360-440
2407	[Rh(NO <sub>2</sub> ) <sub>6</sub> ],Na <sub>3</sub> Sodium hexanitrorhodate(III)	447.91	dec 440
2408	RhO <sub>2</sub> (· <i>n</i> H <sub>2</sub> O) Rhodium(IV) oxide	134.90	hydr <i>t</i> → Rh <sub>2</sub> O <sub>3</sub>
2409	Rh <sub>2</sub> O <sub>3</sub> Rhodium(III) oxide	253.81	dec >1100
2410	Rh(OH) <sub>3</sub> Rhodium(III) hydroxide	153.93	200 → Rh <sub>2</sub> O <sub>3</sub>
2411	Rh <sub>2</sub> S <sub>3</sub> Rhodium(III) sulfide	302.01	dec >900
<b>2412</b>	<b>Rn Radon</b>	222.018	mp -71.0; bp -61.9
<b>2413</b>	<b>Ru Ruthenium</b>	101.07	mp 2607, bp ca. 4900
2414	RuBr <sub>3</sub> Ruthenium(III) bromide	340.78	subl >550
2415	[Ru(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ] Bis(cyclopentadienyl)ruthenium	231.26	mp 199
2416	[Ru(C <sub>5</sub> H <sub>7</sub> O <sub>2</sub> ) <sub>3</sub> ] Tris(acetylacetonato)ruthenium	398.40	mp 76.5
2417	[Ru(CO) <sub>5</sub> ] Pentacarbonylruthenium	241.12	mp -22, 50 → [Ru <sub>3</sub> (CO) <sub>12</sub> ]
2418	[Ru <sub>3</sub> (CO) <sub>12</sub> ] Dodecacarbonyltriruthenium	639.33	dec 150, mp 155 ( <i>p</i> )

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2379	wh	+	...	+	+	+	+	+
2380	wh	+	...	+	+	+	+	+
2381	yel	+	...	+	+	+	+	+
2382	yel	+	...	+	+	+	+	+
2383	brn-blk	i	...	+	+	+	+	i
2384	wh	i/+	r	+	+	+	+	+
2385	blk, 7.51	i	i	-	-/+	+	i	...
2386	blk-brn, 4.87	i/+	...	-	-/+	-/+	+	-
2387	wh, 12.41	-	-	-	-/+	-	-	-
2388	red-brn, 5.56	r	i	-	-	-	+	+
2389	orange	-/+	r	-	-/+	-	-/+	...
2390	dk-red	-	d	-/+	-/+	-/+	-/+	...
2391	viol-brn	-	d	-	-/+	-	-/+	-
2392	yel lq	-/+	r	-/+	-/+	-/+	-/+	...
2393	red	-/+	r	-/+	-/+	-/+	-/+	...
2394	orange-red	+	r	+	+	+	-/+	+
2395	red hydr, 2.17	r	...	-	r	-/+	-/+	-
2396	red-brn, 3.11	r	r	+	-	-	+	+
2397	grn	+	...	+	+	+	+	+
2398	red hydr, 3.29	r/+	i	-/+	+	+	+	+
2399	dk-red hydr	r	i	-/+	+	+	+	+
2400	red, 5.38	i	...	-	-	-	-	-
2401	sk-bl	+	...	+	+	+	+	+
2402	brn	i	...	+	+	+	+	+
2403	blk, 6.40	r	i	-	-	-	+	+
2404	wh, 2.01	r	...	+	+	+	+	r
2405	yel-brn	r	i	+	-	r	+	+
2406	wh, 2.74	i/d	...	-/+	-/+	-/+	-/+	+
2407	wh	r	i	+	+	+	-/+	-
2408	dk-grn hydr	i	-	-/+	-	-	+	i
2409	grey-blk, 8.20	-	i	-	-	-	-	-
2410	yel	i	i	+	+	+	i/+	i
2411	blk, 6.40	i	...	-	-/+	-	i	i
2412	cl gas, 9.73	d	r	-	-	-	-	-
2413	wh, 12.3	-	-	-	-/+	-	-	-
2414	blk, 5.42	r	r	+	-/+	-/+	+	+
2415	yel	-	r	-	-	-	-	-
2416	dk-red	i	r	-	-/+	-/+	-	-
2417	cl lq	-	r	-	-/+	-/+	-	-
2418	orange	-	r	-	-/+	-/+	-/+	-

No.	Formula and name	$M_r$	Phase transition temperature
2419	$[\text{Ru}_2(\text{CO})_4(\text{C}_5\text{H}_5)_2]$ Tetracarbonylbis(cyclopentadienyl)diruthenium	444.37	mp 185
2420	$[\text{Ru}_2(\text{CO})_6\text{Cl}_4]$ Hexacarbonyltetrachlorodiruthenium	512.01	dec 315
2421	$[\text{Ru}(\text{CO})_4\text{I}_2]$ Tetracarbonyldiiodoruthenium	466.92	dec >140
2422	$\text{RuCl}_3$ Ruthenium(III) chloride	207.43	dec >500
2423	$\text{RuCl}_4 \cdot 5\text{H}_2\text{O}$ Ruthenium(IV) chloride	242.88	dec hydr 100
2424	$[\text{RuCl}_6]_2\text{K}_2$ Potassium hexachlororuthenate(IV)	391.98	dec 520
2425	$[\text{RuCl}_6]_2(\text{NH}_4)_2$ Ammonium hexachlororuthenate(IV)	349.87	dec 360
2426	$[\text{Ru}_2\text{Cl}_{10}\text{O}]_2\text{K}_4 \cdot 2\text{H}_2\text{O}$ Potassium decachlorooxodiruthenate(IV)	729.06	dec hydr >200
2427	$\text{RuF}_5$ Ruthenium(V) fluoride	196.06	mp 86.5; bp 227
2428	$\text{RuF}_6$ Ruthenium(VI) fluoride	215.06	mp 54, dec >200
2429	$[\text{Ru}(\text{H}_2\text{O})\text{Cl}_5]_2\text{K}_2$ Potassium aquapentachlororuthenate(III)	374.55	dec 180
2430	$\text{RuI}_3$ Ruthenium(III) iodide	481.78	>300 $\rightarrow$ $\text{Ru}_2\text{I}_2$
2431	$[\text{Ru}(\text{NO}^+)\text{Cl}_5]_2\text{K}_2$ Potassium nitrosiliumpentachlororuthenate(II)	386.54	dec >570
2432	$[\text{Ru}(\text{NO}^+)\text{Cl}_5]_2(\text{NH}_4)_2$ Ammonium nitrosiliumpentachlororuthenate(II)	344.42	dec 440
2433	$[\text{Ru}(\text{NO}^+)(\text{H}_2\text{O})_2(\text{OH})_3]$ Nitrosiliumdiaquatrihydroxoruthenium	218.13	dec $t$
2434	$[\text{Ru}(\text{NO}^+)(\text{NO}_2)_4\text{OH}]\text{Na}_2$ Sodium nitrosiliumtetranitrohydroxoruthenate(II)	378.08	dec $t$
2435	$\text{RuO}_2$ Ruthenium(IV) oxide	133.07	>1300 $\rightarrow$ $\text{RuO}_4$
2436	$\text{RuO}_2 \cdot n\text{H}_2\text{O}$	—	$-\text{H}_2\text{O}$ 500
2437	$\text{RuO}_4$ Ruthenium(VIII) oxide	165.07	mp 25.4; >100 $\rightarrow$ $\text{RuO}_2$
2438	$\text{Ru}(\text{O})\text{F}_4$ Ruthenium oxide-tetrafluoride	193.06	mp 115
2439	$\text{Ru}(\text{OH})_3$ Ruthenium(III) hydroxide	152.09	dec $t$
2440	$\text{Ru}(\text{S}_2)$ Ruthenium(II) disulfide(2-)	165.20	dec >1000
2441	$\alpha\text{-S}_8$ Octasulfur	256.528	95.5 $\rightarrow$ $\beta\text{-S}_8$
2442	$\beta\text{-S}_8$	256.528	mp 119.3; bp 444.674
2443	$\text{S}_2\text{Br}_2$ Disulfur dibromide	223.94	mp -46, dec 90
2444	$\text{SBr}_2\text{O}$ Sulfur dibromide-oxide	207.87	mp -49.5; bp 138 ( $p$ )
2445	$\text{S}(\text{Br})\text{O}_2\text{F}$ Sulfur bromide-dioxide-fluoride	162.97	mp -86, bp 40
2446	$\text{SCl}_2$ Sulfur dichloride	102.97	mp -121, bp 59.6
2447	$\text{SCl}_4$ Sulfur tetrachloride	173.88	mp -30, dec -15
2448	$\text{S}_2\text{Cl}_2$ Disulfur dichloride	135.04	mp -77, bp 138
2449	$\text{S}(\text{Cl})\text{F}_3$ Sulfur chloride-pentafluoride	162.51	mp -64, bp -19
2450	$\text{SCl}_2\text{O}$ Sulfur dichloride-oxide	118.97	mp -104.5; bp 75.6
2451	$\text{SCl}_2\text{O}_2$ Sulfur dichloride-dioxide	134.97	mp -54.1; bp 69.5
2452	$\text{S}_2\text{Cl}_4\text{O}$ Disulfur tetrachloride-oxide	221.94	bp 60.5
2453	$\text{S}(\text{Cl})\text{O}(\text{F})$ Sulfur chloride-oxide-fluoride	102.52	mp -139.5; bp 12.2
2454	$\text{S}(\text{Cl})\text{O}_2\text{F}$ Sulfur chloride-dioxide-fluoride	118.52	mp -124.7; bp 7.1
2455	$\text{SF}_4$ Sulfur tetrafluoride	108.06	mp -121.0; bp -37
2456	$\text{SF}_6$ Sulfur hexafluoride	146.05	mp -50, dec >800
2457	$\text{S}_2\text{F}_2$ Dissulfur difluoride	102.13	mp -133, >15 $\rightarrow$ $\text{S}(\text{S})\text{F}_2$
2458	$\text{S}_2\text{F}_{10}$ Disulfur decafluoride	254.11	mp -60, bp 29

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2419	orange	-/+	r	-/+	-/+	-/+	-/+	-/+
2420	wh ( <i>t</i> → orange)	-/+	r	-/+	-/+	-/+	-/+	-/+
2421	yel	-/+	r	-/+	-/+	-/+	-/+	...
2422	blk-brn, 3.11	i/+	d	+	-/+	-/+	+	+
2423	red hydr	r	r	r	-	-	+	+
2424	blk-red	+	i	+	+	+	+	+
2425	red-brn	d/+	...	+	+	+	-/+	...
2426	brn-brn hydr	r/+	...	-/+	-/+	-/+	-/+	+
2427	dk-grn, 2.96	+	...	+	+	+	+	+
2428	dk-brn	+	...	+	+	+	+	+
2429	dk-red	+	...	+	-/+	-/+	-/+	+
2430	blk	d/+	d	+	-/+	-/+	+	+
2431	dk-red	r/+	i	r/+	-	-	+	+
2432	dk-orange	r/+	...	r/+	-	-	+	+
2433	brn	i	...	+	+	+	-	-
2434	red-orange	r	...	-	-	-	+	+
2435	blk-bl, 6.97	-	i	-	-	-	-	-
2436	blk	i	i	+	+	+	i	i
2437	orange-yel, 3.29	+	+	+	+	+	+	+
2438	wh	+	...	+	+	+	+	+
2439	dk-brn	i	...	+	+	+	i	i
2440	brn-blk, 6.99	i	...	-	-	-	i	i
2441	yel, 1.96	-	d	-	-/+	-/+	+	-/+
2442	yel, 2.07	-	d	-	-/+	-/+	+	-/+
2443	dk-red lq, 2.629 <sup>20</sup>	+	...	+	+	+	+	+
2444	orange lq, 2.685 <sup>20</sup>	+	...	+	+	+	+	+
2445	cl lq	+	...	+	+	+	+	+
2446	dk-red lq, 1.621 <sup>20</sup>	+	+	+	+	+	+	+
2447	yel-brn lq	+	+	+	+	+	+	+
2448	lt-yel lq, 1.688 <sup>20</sup>	+	r	+	+	+	+	+
2449	cl gas	+	+	+	+	+	+	+
2450	cl lq, 1.64 <sup>20</sup>	+	+	+	+	+	+	+
2451	cl lq, 1.677 <sup>20</sup>	+	r	+	+	+	+	+
2452	dk-red lq, 1.66 <sup>0</sup>	+	+	+	+	+	+	+
2453	cl lq, 1.576 <sup>0</sup>	+	...	+	+	+	+	+
2454	cl gas, 1.623	+	...	+	+	+	+	+
2455	cl lq, 1.919 <sup>-73</sup>	+	+	+	+	+	+	+
2456	cl gas, 6.976	i	i	-	-	-	-	-
2457	cl lq, 1.5 <sup>-100</sup>	+	r	+	+	+	+	+
2458	cl lq, 2.08 <sup>20</sup>	-/+	...	-	-	-	-/+	-/+

No.	Formula and name	$M_r$	Phase transition temperature
2459	(SF <sub>3</sub> (N) <sub>3</sub> Tris(fluorosulfur) trinitride	195.21	mp 74, bp 93
2460	(SF <sub>4</sub> (N) <sub>4</sub> Tetrakis(fluorosulfur) tetranitride	260.28	mp 153 dec
2461	S <sub>2</sub> I <sub>2</sub> Disulfur diiodide	317.94	dec 30
2462	S <sub>4</sub> N <sub>2</sub> Tetrasulfur dinitride	156.28	mp 23 dec
2463	S <sub>4</sub> N <sub>4</sub> Tetrasulfur tetranitride	184.29	mp 178, bp 185
2464	S(N)F <sub>3</sub> Sulfur nitride-trifluoride	103.07	bp -72.6, bp -27.1
2465	S(NH)O Sulfur imide-oxide	63.08	mp -85, dec >20
2466	S(NH <sub>2</sub> ) <sub>2</sub> O <sub>2</sub> Sulfur diamide-dioxide	96.11	mp 92.5; dec 140
2467	SO <sub>2</sub> Sulfur dioxide	64.06	mp -75.46; bp -10,1
2468	SO <sub>2</sub> ·7.67H <sub>2</sub> O	202.24	mp 12, dec 60-80
2469	SO <sub>3</sub> Sulfur trioxide	80.06	mp 16.8; bp 44.7
2470	S <sub>2</sub> O Disulfur oxide	80.13	mp < -196
2471	S <sub>3</sub> O <sub>9</sub> Trisulfur nonaoxide	240.19	soft >17, subl >43
2472	S <sub>n</sub> O <sub>3n</sub> Polysulfur tripolyoxide	-	soft >32
2473	S(O)F <sub>2</sub> Sulfur oxide-difluoride	86.06	mp -110.5; bp -43.7
2474	S(O)F <sub>4</sub> Sulfur oxide-tetrafluoride	124.06	mp -99.6; bp -48.5
2475	SO <sub>2</sub> F <sub>2</sub> Sulfur dioxide-difluoride	102.06	mp -135.81; bp 55.37
2476	S(S)F <sub>2</sub> Sulfur sulfide-difluoride	102.13	mp -164.6; bp -10.6
<b>2477</b>	<b>Sb Antimony</b>	121.75	mp 630.74; bp 1634
2478	SbBr <sub>3</sub> Antimony(III) bromide	361.46	mp 96.6; bp 289
2479	SbCl <sub>3</sub> Antimony(III) chloride	228.11	mp 72.3; bp 221
2480	SbCl <sub>5</sub> Antimony(V) chloride	299.02	mp 2.8; bp 140 dec
2481	SbCl <sub>3</sub> F <sub>2</sub> Antimony trichloride-difluoride	266.11	mp 55
2482	[Sb <sup>V</sup> Cl <sub>6</sub> ], {I(II)Cl} Iodochloroiodine(II) hexachlorostibate(V)	623.73	subl 20, mp 70
2483	Sb(Cl)O Antimony chloride-oxide	173.20	>320 → SbCl <sub>3</sub> , Sb <sub>2</sub> O <sub>3</sub>
2484	SbF <sub>3</sub> Antimony(III) fluoride	178.74	mp 287, bp 319
2485	SbF <sub>5</sub> Antimony(V) fluoride	216.74	mp 8.3; bp 149.5
2486	[Sb <sup>V</sup> F <sub>6</sub> ], (ClO <sub>2</sub> ) <sub>2</sub> Dioxochlorine(V) hexafluorostibate(V)	303.19	mp 235
2487	[SbF <sub>6</sub> ], H·(H <sub>2</sub> O) Hydrogen hexafluorostibate(V)	254.76	dec hydr 357
2488	[SbF <sub>6</sub> ], Na Sodium hexafluorostibate(V)	258.73	mp >350
2489	SbH <sub>3</sub> Stibine	124.77	mp -94.2; bp -18.4
2490	SbI <sub>3</sub> Antimony(III) iodide	502.46	mp 170.5; bp 401.6
2491	α-Sb <sub>2</sub> O <sub>3</sub> Antimony(III) oxide	291.50	460 → β-Sb <sub>2</sub> O <sub>3</sub>
2492	β-Sb <sub>2</sub> O <sub>3</sub>	291.50	mp 655, bp 1456
2493	Sb <sub>2</sub> O <sub>3</sub> ·nH <sub>2</sub> O	-	30 → Sb <sub>2</sub> O <sub>3</sub>
2494	Sb <sub>2</sub> O <sub>5</sub> Antimony(V) oxide	323.50	>450 → (Sb <sup>III</sup> Sb <sup>V</sup> ) <sub>4</sub> O <sub>4</sub>
2495	Sb <sub>2</sub> O <sub>5</sub> ·nH <sub>2</sub> O (n ≤ 3.5)	-	1000 → (Sb <sup>III</sup> Sb <sup>V</sup> ) <sub>4</sub> O <sub>4</sub>
2496	[Sb(OH) <sub>6</sub> ], K Potassium hexahydroxostibate(V)	262.89	dec ca. 680
2497	[Sb(OH) <sub>6</sub> ], Na Sodium hexahydroxostibate(V)	246.78	dec 600
2498	Sb <sub>2</sub> S <sub>3</sub> Antimony(III) sulfide	339.70	mp 550.5; bp 1160
2499	[SbS <sub>3</sub> ], Ag <sub>3</sub> Silver(II) trithiostibate(III)	541.55	mp 486
2500	[SbS <sub>4</sub> ], Ag <sub>5</sub> Silver(II) tetrathioantimonate(III)	789.35	dec 600
2501	[SbS <sub>3</sub> ], Na <sub>3</sub> ·(9H <sub>2</sub> O) Sodium trithiostibate(III)	286.92	-H <sub>2</sub> O 150, mp 600
2502	[SbS <sub>4</sub> ], Na <sub>3</sub> ·(9H <sub>2</sub> O) Sodium tetrathioantimonate(III)	318.98	mp hydr 87, dec hydr ca. 230

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> , H <sub>2</sub> O
2459	wh	-/+	...	-	-/+	-/+	+	...
2460	wh	-/+	...	-	-/+	-/+	+	...
2461	brn	+	...	+	+	+	+	+
2462	red lq, 1.901 <sup>13</sup>	-/+	d	-/+	-/+	-/+	...	...
2463	orange, 2.22	+	d	-/+	+	+	+	...
2464	cl gas	-/+	...	-	-	-	+	+
2465	cl lq	-/+	...	...	...	...	+	+
2466	wh	-/+	d/r	-	-	-	+	+
2467	cl gas, 2.9269	r	r	-	-	-/+	+	+
2468	wh	r	r	-	-	-/+	+	+
2469	wh, 1.97	+	...	+	+	+	+	+
2470	cl gas	+	r	+	+	+	+	+
2471	wh	+	...	+	+	+	+	+
2472	wh	+	...	+	+	+	+	+
2473	cl gas, 3.84	+	+	+	+	+	+	+
2474	cl gas	+	+	+	+	+	+	+
2475	cl gas, 3.992	d/+	r	-	-	-	+	+
2476	cl gas	+	r	+	+	+	+	+
2477	sk-bl-wh, 6.684	-	-	-	-/+	+	-	-
2478	wh, 4.15	+	r	+	+	+	+	+
2479	wh, 3.14	+	r	+	+	+	+	+
2480	cl lq, 2.346 <sup>20</sup>	+	r	+	+	+	+	+
2481	wh	+	r	+	+	+	+	+
2482	dk-red	r/+	r	+	+	+	+	+
2483	wh	i/+	i	+	+	+	-	-
2484	wh, 4.38	r/+	r	r	r	r	+	+
2485	cl lq, 2.993 <sup>22</sup>	+	...	+	+	+	+	+
2486	wh	r/+	r/+	+	+	+	+	+
2487	wh hydr	+	...	-	-	-	+	+
2488	wh, 3.38	r	r	r	r	r	-/+	-
2489	cl gas, 4.599	d	r	-/+	-/+	-/+	+	+
2490	red, 4.77	+	d	+	+	+	+	+
2491	wh, 5.19	-	...	+	+	+	+	+
2492	wh, 5.76	-	...	+	-/+	-/+	+	+
2493	wh	i	i	+	+	+	+	+
2494	yel, 3.78	-	i	-/+	...	-	+	+
2495	yel	i	i	-/+	...	i	+	+
2496	wh	d	r	+	+	+	-	-
2497	wh	i	r	+	+	+	i	i
2498	grey-orange, 4.63	i	...	-/+	...	+	+	+
2499	red, 5.85	i	...	-	-/+	+	-	-/+
2500	brn-blk, 6.25	i	...	-/+	-/+	-/+	-/+	+
2501	lt-yel	r	...	+	+	+	+	...
2502	yel-grn hydr, 1.84	r	i	+	+	+	+	...

No.	Formula and name	$M_r$	Phase transition temperature
2503	$\text{Sb}_2(\text{SO}_4)_3 \cdot (\text{H}_2\text{O})$ Antimony(III) sulfate	531.69	$-\text{H}_2\text{O}$ 20–30
2504	$(\text{Sb}^{\text{III}}\text{Sb}^{\text{V}})\text{O}_4$ Antimony(III)-antimony(V) oxide	307.50	subl 1050
2505	$\text{Sb}_2\text{Se}_3$ Antimony(III) selenide	480.38	mp 617, bp 1031
2506	$\text{Sb}_2\text{Te}_3$ Antimony(III) telluride	626.30	mp 621.6; bp 1173
<b>2507</b>	<b>Sc Scandium</b>	44.956	mp 1541, bp ca. 2850
2508	$\text{ScB}_2$ Scandium diboride	66.58	mp 2250
2509	$\text{ScBr}_3$ Scandium(III) bromide	284.67	subl 929
2510	ScC Scandium monocarbide	56.97	mp 1800
2511	$\text{Sc}_2(\text{C}_2\text{O}_4)_3 \cdot (5\text{H}_2\text{O})$ Scandium(III) oxalate	353.97	hydr 500 $\rightarrow$ $\text{Sc}_2\text{O}_3$
2512	$\text{ScCl}_3$ Scandium(III) chloride	151.32	mp 967 (p), bp 975
2513	$\text{ScCl}_3 \cdot 6\text{H}_2\text{O}$	259.41	dec >250
2514	$\text{ScF}_3$ Scandium(III) fluoride	101.95	mp 1552, bp 1607
2515	$\text{ScI}_3$ Scandium(III) iodide	425.67	subl 912
2516	ScN Scandium mononitride	58.96	mp 2650
2517	$\text{Sc}(\text{NO}_3)_3 \cdot (4\text{H}_2\text{O})$ Scandium(III) nitrate	230.97	hydr 220 $\rightarrow$ $\text{Sc}_2\text{O}_3$
2518	$\text{Sc}_2\text{O}_3$ Scandium(III) oxide	137.91	mp ca. 2450
2519	$\text{Sc}(\text{OH})_3$ Scandium(III) hydroxide	95.98	280 $\rightarrow$ $\text{ScO}(\text{OH})$
2520	$[\text{Sc}(\text{OH})_4]_n\text{Na}$ Sodium tetrahydroxoscandate(III)	135.97	dec >300
2521	$[\text{Sc}(\text{OH})_6]_n\text{Na}_3$ Sodium hexahydroxoscandate(III)	215.97	120 $\rightarrow$ $[\text{Sc}(\text{OH})_4]_n\text{Na}$
2522	ScO(OH) Scandium metahydroxide	77.96	460 $\rightarrow$ $\text{Sc}_2\text{O}_3$
2523	$\text{ScPO}_4 \cdot (2\text{H}_2\text{O})$ Scandium(III) orthophosphate	139.93	$-\text{H}_2\text{O}$ 200, mp 1780
2524	$\text{Sc}_2(\text{SO}_4)_3 \cdot (5\text{H}_2\text{O})$ Scandium(III) sulfate	378.10	$-\text{H}_2\text{O}$ 400, dec >600
<b>2525</b>	<b>Se (amor) Selenium, amorphous</b>	78.96	>72 $\rightarrow$ $\text{Se}_8$
<b>2526</b>	<b>Se Selenium, grey</b>	78.96	mp 217, bp 685.3
<b>2527</b>	<b>Se<sub>8</sub> Selenium, red</b>	631.68	>130 $\rightarrow$ Se
2528	$\text{SeBr}_4$ Selenium tetrabromide	398.58	dec 75
2529	$\text{Se}_2\text{Br}_2$ Diselenium dibromide	317.73	dec >100
2530	$\text{Se}(\text{Br})\text{Cl}_3$ Selenium bromide-trichloride	265.22	mp 190
2531	$\text{SeBr}_2\text{O}$ Selenium dibromide-oxide	254.77	mp 41.6; bp 217 dec
2532	$\text{SeC}_2$ see $\text{CSe}_2$ (No. 447)		
2533	$\text{SeCl}_4$ Selenium tetrachloride	220.77	subl ca. 196, mp 305 (p)
2534	$\text{Se}_2\text{Cl}_2$ Diselenium dichloride	228.83	mp –85, bp 127
2535	$\text{SeCl}_2\text{O}$ Selenium dichloride-oxide	165.87	mp 10.8; bp 177.6 dec
2536	$\text{SeF}_4$ Selenium tetrafluoride	154.95	mp –9.5; bp 107.7
2537	$\text{SeF}_6$ Selenium hexafluoride	192.95	subl –46.6; bp –34.8
2538	$\text{SeO}_2$ Selenium dioxide	110.96	subl 315, mp 340 (p)
2539	$\text{SeO}_3$ Selenium trioxide	126.96	mp 118.5; dec >185
2540	$\text{Se}(\text{O})\text{F}_2$ Selenium oxide-difluoride	132.96	mp 15.5; bp 125
2541	$\text{Se}_2\text{S}_7$ Tetraselenium tetrasulfide	444.10	mp 113 dec
<b>2542</b>	<b>Si Silicon</b>	28.086	mp 1415, bp ca. 3250
2543	$\text{SiBr}_4$ Silicon tetrabromide	347.70	mp 5.4; bp 152.6
2544	SiC Silicon monocarbide	40.10	mp 2830 dec
2545	$\text{SiCl}_4$ Silicon tetrachloride	169.90	mp –68.8; bp 57.6
2546	$\text{SiF}_4$ Silicon tetrafluoride	104.08	subl –95.7, mp –90.3 (p)
2547	$[\text{SiF}_6]_n\text{Ca} \cdot (2\text{H}_2\text{O})$ Calcium hexafluorosilicate(IV)	182.15	dec hydr >100
2548	$[\text{SiF}_6]_n\text{Co} \cdot (6\text{H}_2\text{O})$ Cobalt(II) hexafluorosilicate(IV)	201.01	dec hydr >120
2549	$[\text{SiF}_6]_n\text{Cs}_2$ Cesium hexafluorosilicate(IV)	407.88	dec 245–800

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2503	wh, 3.63	i/+	...	+	+	+	+	...
2504	wh, 5.82	-	...	-/+	-/+	-	-	-
2505	grey	i	i	-/+	-/+	-/+	i/+	i
2506	grey, 6.50	i	...	+	+	+	i/+	i
2507	wh-yel, 3.02	+	-	+	+	+	+	+
2508	grey	-	i	-	-/+	-/+	-/+	-
2509	wh, 3.91	r	r	r	-/+	-	+	+
2510	blk	-	i	-	-/+	-	-	-
2511	wh hydr	i	...	-/+	-/+	i/+	+	+
2512	wh, 2.39	r	r	r/d	-/+	-	+	+
2513	wh	r	r	r	-	-	+	+
2514	wh	i	i	i	-	i	i	i
2515	wh	r	r	-	-/+	-/+	+	+
2516	dk-sk-bl, 4.2	-	i	-/+	-/+	-/+	-	-
2517	wh hydr	r	r	-	-	r	+	+
2518	wh, 3.86	-	i	-/+	-/+	-/+	-	-
2519	wh, 2.65	i	i	+	+	+	+	i
2520	wh	+	...	+	+	+	+	+
2521	wh	+	...	+	+	+	r	-
2522	wh	i	...	+	+	+	i/+	i
2523	wh	i	i	i/r	i	i	i	i
2524	wh, 2.58(2.52)	r	r	-	r	-	+	+
2525	red, 4.28	-	-	-	-/+	+	-/+	-
2526	grey, 4.79	-	-	-	-/+	+	-/+	-
2527	red, 4.46	-	-	-	-	-/+	-/+	-
2528	yel-orange	+	...	+	+	+	+	+
2529	dk-red lq, 3.604 <sup>15</sup>	+	+	+	+	+	+	+
2530	yel-brn	+	...	+	+	+	+	+
2531	orange	+	...	+	+	+	+	+
2532	see No. 447							
2533	lt-yel, 3.80	+	...	+	+	+	+	+
2534	dk-red lq, 2.77 <sup>25</sup>	+	+	+	+	+	+	+
2535	lt-yel lq, 2.43 <sup>20</sup>	+	...	+	+	+	+	+
2536	cl lq, 2.72 <sup>25</sup>	+	r	+	+	+	+	+
2537	cl gas, 2.917	+	+	+	+	+	+	+
2538	wh, 3.95	+	r	+	+	+	+	+
2539	wh, 2.75	+	+	+	+	+	+	+
2540	cl lq, 2.67 <sup>20</sup>	+	r	+	+	+	+	+
2541	orange-yel, 3.06	-	...	-/+	-/+	-/+	-	-
2542	dk-grey, 2.33	-	-	-	-	-	-/+	...
2543	cl lq, 2.789 <sup>20</sup>	+	...	+	+	+	+	+
2544	wh, 3.22	-	-	-	-	-	-	-
2545	cl lq, 1.483 <sup>20</sup>	+	i	+	+	+	+	+
2546	cl gas, 4.684	+	r	+	+	+	+	+
2547	wh, 2.66	d	r	r/+	-/+	-	-/+	-/+
2548	lt-red hydr, 2.11	r	...	-	-	-	+	+
2549	wh, 3.37	d	i	-	-	-	-	-

No.	Formula and name	$M_r$	Phase transition temperature
2550	[SiF <sub>6</sub> ],Cu (-6H <sub>2</sub> O) Copper(II) hexafluorosilicate(IV)	205.62	dec hydr >150
2551	[SiF <sub>6</sub> ],Fe (-6H <sub>2</sub> O) Iron(II) hexafluorosilicate(IV)	197.92	dec hydr <i>t</i>
2552	[SiF <sub>6</sub> ],H <sub>2</sub> (-2H <sub>2</sub> O) Hydrogen hexafluorosilicate(IV)	144.09	mp hydr 19 dec
2553	[SiF <sub>6</sub> ],K <sub>2</sub> Potassium hexafluorosilicate(IV)	220.27	dec 700, mp 873 ( <i>p</i> )
2554	[SiF <sub>6</sub> ],Li <sub>2</sub> (-2H <sub>2</sub> O) Lithium hexafluorosilicate(IV)	155.96	-H <sub>2</sub> O 100
2555	[SiF <sub>6</sub> ],Mg (-6H <sub>2</sub> O) Magnesium hexafluorosilicate(IV)	166.38	dec hydr 120
2556	[SiF <sub>6</sub> ],Mn (-6H <sub>2</sub> O) Manganese(II) hexafluorosilicate(IV)	197.01	dec hydr >160
2557	[SiF <sub>6</sub> ],(NH <sub>4</sub> ) <sub>2</sub> Ammonium hexafluorosilicate(IV)	178.15	dec 319
2558	[SiF <sub>6</sub> ],Na <sub>2</sub> Sodium hexafluorosilicate(IV)	188.05	dec ca. 570
2559	[SiF <sub>6</sub> ],Ni (-6H <sub>2</sub> O) Nickel(II) hexafluorosilicate(IV)	200.76	dec hydr >185
2560	[SiF <sub>6</sub> ],Rb <sub>2</sub> Rubidium hexafluorosilicate(IV)	313.01	dec 750
2561	[SiF <sub>6</sub> ],Sr (-2H <sub>2</sub> O) Strontium hexafluorosilicate(IV)	229.69	dec >110
2562	[SiF <sub>6</sub> ],Tl <sub>2</sub> Thallium(I) hexafluorosilicate(IV)	550.84	dec hydr 165
2563	SiH <sub>4</sub> Monosilane	32.12	mp -185, bp -111.9
2564	Si <sub>2</sub> H <sub>6</sub> Disilane	62.22	mp -132, bp -14.5
2565	Si <sub>3</sub> H <sub>8</sub> Trisilane	92.32	mp -117.4; bp 52.9
2566	Si <sub>4</sub> H <sub>10</sub> Tetrasilane	122.42	mp -84.3; bp 107
2567	SiI <sub>4</sub> Silicon tetraiodide	535.70	mp 122, bp 290
2568	Si <sub>3</sub> N <sub>4</sub> Trisilicon tetranitride	140.29	subl 1900
2569	Si(NCO) <sub>4</sub> Silicon tetracyanate-N	196.15	mp 26, bp 186
2570	SiO Silicon monooxide	44.09	dec 400-700
2571	SiO <sub>2</sub> (amor) ( <i>n</i> H <sub>2</sub> O) Silicon dioxide	60.08	-H <sub>2</sub> O <i>t</i> , soft ca. 1300
2572	SiO <sub>2</sub> ( $\alpha$ -quartz)	60.08	573 $\rightarrow$ $\beta$ -quartz
2573	SiO <sub>2</sub> ( $\beta$ -quartz)	60.08	mp 1550, bp 2950
2574	SiO <sub>2</sub> (keatite)	60.08	...
2575	SiO <sub>2</sub> (coesite)	60.08	...
2576	SiO <sub>2</sub> ( $\alpha$ -cristobalite)	60.08	470 $\rightarrow$ $\beta$ -cristobalite
2577	SiO <sub>2</sub> ( $\beta$ -cristobalite)	60.08	mp 1720, bp 2950
2578	SiO <sub>2</sub> (melanophlogite)	60.08	>800 $\rightarrow$ $\beta$ -cristobalite
2579	SiO <sub>2</sub> (stishovite)	60.08	...
2580	SiO <sub>2</sub> ( $\alpha$ -tridymite)	60.08	163 $\rightarrow$ $\beta$ -tridymite
2581	SiO <sub>2</sub> ( $\beta$ -tridymite)	60.08	1470 $\rightarrow$ $\beta$ -cristobalite
2582	Si(OCN) <sub>4</sub> Silicon tetracyanate	196.15	mp 35, bp 245
2583	SiS <sub>2</sub> Silicon disulfide	92.22	mp 1090, bp 1130
2584	[SiW <sub>12</sub> O <sub>40</sub> ],H <sub>4</sub> (-7H <sub>2</sub> O) Hydrogen 40-oxododecawolframosilicate(IV)	2878.28	dec hydr >100
<b>2585</b>	<b>Sm Samarium</b>	150.36	mp 1072, bp ca. 1800
2586	SmBr <sub>2</sub> Samarium(II) bromide	310.17	mp 669, bp 1880
2587	SmBr <sub>3</sub> (-6H <sub>2</sub> O) Samarium(III) bromide	390.07	mp 640
2588	Sm(BrO <sub>3</sub> ) <sub>3</sub> (-9H <sub>2</sub> O) Samarium(III) bromate	534.06	mp hydr 74.5; -H <sub>2</sub> O 150
2589	SmC <sub>2</sub> Samarium dicarbide	174.38	mp >2300
2590	Sm <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> (-10H <sub>2</sub> O) Samarium(III) oxalate	564.77	hydr >600 $\rightarrow$ Sm <sub>2</sub> O <sub>3</sub>
2591	SmCl <sub>2</sub> Samarium(II) chloride	221.27	mp 859, bp 1950
2592	SmCl <sub>3</sub> (-6H <sub>2</sub> O) Samarium(III) chloride	256.72	-H <sub>2</sub> O >110, mp 678
2593	SmF <sub>3</sub> Samarium(III) fluoride	207.35	mp 1305, bp 2330
2594	SmI <sub>2</sub> Samarium(II) iodide	404.17	mp 520, bp 1660

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2550	sk-bl hydr, 2.21	r	...	-	-	-	+	+
2551	wh hydr, 1.96	r	...	-	-/+	-/+	+	+
2552	wh hydr	r	...	-	-	-	+	+
2553	wh, 2.67	d	i	-	-	-	-	-
2554	wh hydr, 2.33	r	r	-	-	-	-	-
2555	wh hydr, 1.79	r	i	-	-	-	+	+
2556	pink hydr, 1.90	r	r	-	-	-	+	+
2557	wh, 2.15	r	d	-	-	-	-	-
2558	wh, 2.68	d/r	i	-	-	-	-	-
2559	grn hydr, 2.13	r	...	-	-	r	+	+
2560	wh, 3.33	d	i	r	-/+	-/+	-	-
2561	wh hydr, 2.99	r	...	-/+	+	-	-	-
2562	wh, 5.72	r	...	-	-/+	r	-/+	-
2563	cl gas, 1.44	i/+	r	-	-/+	+	+	+
2564	cl gas, 2.85	i/+	r	-	-/+	+	+	+
2565	cl lq, 0.739 <sup>20</sup>	i/+	r	-	-/+	+	+	+
2566	cl lq, 0.79 <sup>0</sup>	i/+	r	-	-/+	+	+	+
2567	wh	+	...	+	+	+	+	+
2568	wh, 3.44	+	i	+	+	+	+	+
2569	wh, 1.413	+	r	+	+	+	+	+
2570	brn-blk, 2.13	+	...	+	+	+	+	+
2571	wh, 2.203(2.175)	-	-	-	-	-	+	-
2572	wh, 2.648	-	-	-	-	-	-/+	-
2573	wh, 2.533	-	-	-	-	-	-/+	-
2574	wh, 2.503	-	-	-	-	-	-/+	-
2575	wh, 2.911	-	-	-	-	-	-/+	-
2576	wh, 2.334	-	-	-	-	-	-/+	-
2577	wh, 2.194	-	-	-	-	-	-/+	-
2578	wh, 2.05	-	-	-	-	-	-/+	-
2579	wh, 4.287	-	-	-	-	-	-/+	-
2580	wh, 2.265	-	-	-	-	-	-/+	-
2581	wh, 2.192	-	-	-	-	-	-/+	-
2582	wh, 1.41	+	r	+	+	+	+	+
2583	wh, 2.02	+	...	+	+	+	+	+
2584	wh	r	...	-/+	-/+	-/+	+	+
2585	wh, 7.47	+	-	+	+	+	-	-
2586	dk-brn, 5.1	r/+	...	r	-/+	-	+	+
2587	yel hydr, 2.97	r	r	r	-/+	-	+	+
2588	yel hydr	r	d	-	-	-	+	+
2589	yel, 5.86	+	...	+	+	+	+	+
2590	yel hydr	i	...	-/+	-/+	i/+	i	i
2591	red-brn, 4.56	r/+	i	r	-	-	+	+
2592	yel, 4.46(2.38)	r	r	r	-	r	+	+
2593	yel	i	i	i	-	i	-	i
2594	blk-grn	+	...	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
2595	$\text{SmI}_3$ Samarium(III) iodide	531.07	mp 816–824 dec
2596	$\text{Sm}_2(\text{MoO}_4)_3$ Samarium(III) molybdate	780.53	mp 1130
2597	$\text{Sm}(\text{NO}_3)_3 \cdot (6\text{H}_2\text{O})$ Samarium(III) nitrate	336.37	mp hydr 79, dec hydr $t$
2598	$\text{Sm}_2\text{O}_3$ Samarium(III) oxide	348.72	mp 2270
2599	$\text{Sm}(\text{OH})_3$ Samarium(III) hydroxide	201.38	$t \rightarrow \text{Sm}_2\text{O}_3$
2600	$\text{SmS}$ Samarium(II) sulfide	182.43	mp 1940
2601	$\text{Sm}_2\text{S}_3$ Samarium(III) sulfide	396.92	mp 1780
2602	$\text{Sm}_2(\text{S})\text{O}_2$ Disamarium sulfide-dioxide	214.42	mp ca. 1980
2603	$\text{Sm}_2(\text{SO}_4)_3 \cdot (8\text{H}_2\text{O})$ Samarium(III) sulfate	588.91	$-\text{H}_2\text{O}$ 450, dec >900
2604	$\alpha$ -Sn Tin, grey	118.710	>13.2 $\rightarrow$ $\beta$ -Sn
2605	$\beta$ -Sn Tin, white	118.710	mp 231.9681; bp 2620
2606	$\text{SnBr}_2$ Tin(II) bromide	278.52	mp 232, bp 638
2607	$\text{SnBr}_4$ Tin(IV) bromide	438.33	mp 31, bp 202
2608	$\text{Sn}(\text{Br})\text{Cl}_3$ Tin bromide-trichloride	304.97	mp –1; bp 50
2609	$\text{SnBr}_3\text{Cl}$ Tin tribromide-chloride	393.88	mp 1, bp 73
2610	$\text{Sn}(\text{CH}_3\text{COO})_2$ Tin(II) acetate	236.80	mp 182, bp 240
2611	$\text{Sn}(\text{CH}_3\text{COO})_4$ Tin(IV) acetate	354.89	mp 253
2612	$\text{SnC}_2\text{O}_4$ Tin(II) oxalate	206.73	soft 280 dec
2613	$\text{SnCl}_2$ Tin(II) chloride	189.62	mp 247, bp 652
2614	$\text{SnCl}_4$ Tin(IV) chloride	260.52	mp –33, bp 114.1
2615	$\text{SnCl}_4 \cdot 5\text{H}_2\text{O}$	350.60	mp hydr 56
2616	$[\text{SnCl}_6], \text{Cs}_2$ Cesium hexachlorostannate(IV)	597.24	dec $t$
2617	$\text{Sn}(\text{Cl})\text{F}$ Tin chloride-fluoride	173.16	mp 185–190
2618	$[\text{SnCl}_6], \text{H}_2 \cdot (6\text{H}_2\text{O})$ Hydrogen hexachlorostannate(IV)	333.44	mp hydr 19.2; dec 30
2619	$[\text{SnCl}_6], \text{K}_2$ Potassium hexachlorostannate(IV)	409.62	dec $t$
2620	$[\text{SnCl}_6], (\text{NH}_4)_2$ Ammonium hexachlorostannate(IV)	367.51	dec >200
2621	$\text{SnF}_2$ Tin(II) fluoride	156.71	mp 215.05; bp 853
2622	$\text{SnF}_4$ Tin(IV) fluoride	194.70	subl 705
2623	$[\text{SnF}_6], \text{K}_2 \cdot (\text{H}_2\text{O})$ Potassium hexafluorostannate(IV)	310.89	dec hydr >115
2624	$\text{SnH}_4$ Stannane	122.74	mp –146, bp –52
2625	$[\text{Sn}(\text{H}_2\text{O})\text{Cl}_2] \cdot (\text{H}_2\text{O})$ Aquadichlorotin	207.63	mp hydr 37.7; 80 $\rightarrow$ $[\text{Sn}(\text{H}_2\text{O})\text{Cl}_2]$
2626	$\text{SnI}_2$ Tin(II) iodide	372.52	mp 320, bp 718
2627	$\text{SnI}_4$ Tin(IV) iodide	626.33	mp 144.5; bp 346
2628	$\text{SnI}_2\text{Br}_2$ Tin diiodide-dibromide	532.33	mp 50, bp 225
2629	$\text{SnI}_2\text{Cl}_2$ Tin diiodide-dichloride	443.42	bp 297
2630	$\text{Sn}(\text{NO}_3)_2 \cdot (20\text{H}_2\text{O})$ Tin(II) nitrate	242.72	mp hydr 20, dec >150
2631	$\text{Sn}(\text{NO}_3)_4$ Tin(IV) nitrate	366.73	mp 91; 600 $\rightarrow$ $\text{SnO}_2$
2632	$\text{SnO}$ Tin(II) oxide	134.71	mp 1040, bp 1425
2633	$\text{SnO}_2$ Tin(IV) oxide	150.71	mp 1630, bp 2500
2634	$\alpha$ - $\text{SnO}_2 \cdot n\text{H}_2\text{O}$ ( $1 < n \leq 2$ )	–	350 $\rightarrow$ $\text{SnO}_2$
2635	$\beta$ - $\text{SnO}_2 \cdot n\text{H}_2\text{O}$ ( $n \leq 1$ )	–	600 $\rightarrow$ $\text{SnO}_2$
2636	$\text{Sn}(\text{OH})_2$ Tin(II) hydroxide	152.72	120 $\rightarrow$ $\text{SnO}$
2637	$[\text{Sn}(\text{OH})_6], \text{K}_2$ Potassium hexahydroxostannate(IV)	298.95	dec 185
2638	$[\text{Sn}(\text{OH})_3], \text{Na}$ Sodium trihydroxostannate(III)	192.72	dec >20

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2595	orange-yel	r	r	r	-/+	-/+	+	+
2596	viol, 5.36	i	i	-/+	-/+	-	-/+	-
2597	lt-yel hydr, 2.38	r	...	-	-	r	+	+
2598	lt-yel, 8.35	-/+	...	+	+	+	-	-
2599	lt-yel	i	...	+	+	+	i	i
2600	brn	i	...	+	+	+	i	-
2601	yel-pink, 5.73	i/+	...	+	+	+	i	i
2602	dk-yel	-	...	+	+	+	-	-
2603	lt-yel hydr, 2.93	r	...	-	r	-	+	+
2604	grey, 5.75	-	-	+	+	+	-/+	-
2605	wh, 7.31	-	-	+	+	+	-/+	-
2606	yel, 4.92	+	r	+	+	+	+	+
2607	wh, 3.34	+	r	+	+	+	+	+
2608	cl lq, 2.51 <sup>20</sup>	+	...	+	+	+	+	+
2609	cl lq	+	...	+	+	+	+	+
2610	lt-yel	+	...	+	+/-	+/-	+	+
2611	wh	+	...	+	+	+	+	+
2612	wh	i	...	+	+	+	-/+	i
2613	wh, 3.95	+	r	+	+	+	+	+
2614	cl lq, 2.226 <sup>20</sup>	+	+	+	+	+	+	+
2615	wh hydr	+	+	+	+	+	+	+
2616	wh, 3.33	d	...	r/d	-	-	+	+
2617	wh	+	...	+	+	+	+	+
2618	wh hydr, 1.93	r	...	-	-	-	+	+
2619	wh, 2.71	r	...	r/d	-	-	-/+	-/+
2620	wh, 2.4	r	...	r/d	-	-	-/+	-/+
2621	wh	r/+	r	-	-	-	+	+
2622	wh, 4.78	r/+	...	-	-	-	+	+
2623	wh, 3.05	r	i	-	-	r	-/+	-
2624	cl gas	i	...	-	-/+	-	-/+	-/+
2625	wh hydr, 2.71	r/+	r	+	+	+	+	+
2626	orange-red, 5.28	d/+	r	-/+	-/+	-/+	+	+
2627	yel, 4.5	+	r	+	+	+	+	+
2628	orange-red, 3.63	r/+	...	+	+	+	+	+
2629	red lq	r/+	...	+	+	+	+	+
2630	wh	+	...	+	+	+	+	+
2631	wh	+	...	+	+	+	+	+
2632	dk-bl, 6.25	-	...	+	+	+	-/+	-
2633	wh, 7.00	-	...	-	-/+	-	-/+	-
2634	wh	i	...	+	+	+	+	i
2635	wh	i	...	i	i	i	i	i
2636	wh	i	...	+	+	+	+	+
2637	wh, 3.20	+	i	+	+	+	+/r	+
2638	wh	+	...	+	+	+	+/r	+/r

No.	Formula and name	$M_r$	Phase transition temperature
2639	[Sn(OH) <sub>6</sub> ] <sub>2</sub> Na <sub>2</sub> Sodium hexahydroxostannate(IV)	266.73	dec 140
2640	SnS Tin(II) sulfide	150.78	mp 880, bp 1230
2641	SnS <sub>2</sub> Tin(IV) sulfide	182.84	dec >500
2642	[SnS <sub>3</sub> ] <sub>2</sub> K <sub>2</sub> (·3H <sub>2</sub> O) Potassium trithiostannate(IV)	293.10	-3H <sub>2</sub> O 100
2643	SnSO <sub>4</sub> (·2H <sub>2</sub> O) Tin(II) sulfate	214.77	dec >360
2644	Sn(SO <sub>4</sub> ) <sub>2</sub> (·2H <sub>2</sub> O) Tin(IV) sulfate	310.83	dec hydr 50
2645	SnSe Tin selenide	197.67	mp 861
2646	SnSe <sub>2</sub> Tin(IV) selenide	276.63	mp 650
2647	SnTe Tin(II) telluride	246.31	mp 780
<b>2648</b>	<b>Sr Strontium</b>	87.62	mp 768, bp 1390
2649	SrB <sub>6</sub> Strontium hexaboride	152.49	mp 2235
2650	SrBr <sub>2</sub> Strontium bromide	247.43	mp 657, bp 1972
2651	SrBr <sub>2</sub> ·6H <sub>2</sub> O	355.52	-H <sub>2</sub> O 345
2652	Sr(BrO <sub>3</sub> ) <sub>2</sub> (·H <sub>2</sub> O) Strontium bromate	343.42	-H <sub>2</sub> O 120, dec 240
2653	SrC <sub>2</sub> Strontium acetylide	111.64	mp ca. 1700
2654	Sr(CH <sub>3</sub> COO) <sub>2</sub> (·0.5H <sub>2</sub> O) Strontium acetate	205.71	dec 350-400
2655	SrCO <sub>3</sub> Strontium carbonate	147.63	mp 1497 (p), dec 1200
2656	SrC <sub>2</sub> O <sub>4</sub> (·H <sub>2</sub> O) Strontium oxalate	175.64	-H <sub>2</sub> O 150, 450 → SrCO <sub>3</sub>
2657	SrCl <sub>2</sub> Strontium chloride	158.53	mp 873, bp 2040
2658	SrCl <sub>2</sub> ·6H <sub>2</sub> O	266.62	mp 115, -H <sub>2</sub> O 250
2659	Sr(Cl)F Strontium chloride-fluoride	142.07	mp 962
2660	Sr(ClO <sub>3</sub> ) <sub>2</sub> (·8H <sub>2</sub> O) Strontium chlorate	254.52	dec hydr 120
2661	Sr(ClO <sub>4</sub> ) <sub>2</sub> (·nH <sub>2</sub> O) Strontium perchlorate	286.52	-H <sub>2</sub> O 240, >415 → SrCl <sub>2</sub>
2662	SrCrO <sub>4</sub> Strontium chromate	203.61	mp 1283 dec
2663	Sr <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> Strontium dichromate	303.61	dec hydr 110
2664	SrF <sub>2</sub> Strontium fluoride	125.62	mp 1473, bp ca. 2460
2665	SrH <sub>2</sub> Strontium hydride	89.64	mp 1050 dec
2666	SrHPO <sub>4</sub> Strontium hydroorthophosphate	183.60	dec ca. 900
2667	Sr(HS) <sub>2</sub> Strontium hydrosulfide	153.77	dec 150-200
2668	(SrHf)O <sub>3</sub> Strontium-hafnium trioxide	314.11	mp 2830
2669	SrI <sub>2</sub> Strontium iodide	341.43	mp 538, bp ca. 1900
2670	SrI <sub>2</sub> ·6H <sub>2</sub> O	449.52	dec 90
2671	Sr(IO <sub>3</sub> ) <sub>2</sub> (·H <sub>2</sub> O) Strontium iodate	437.42	dec >500
2672	Sr(MnO <sub>4</sub> ) <sub>2</sub> (·3H <sub>2</sub> O) Strontium permanganate	325.49	dec hydr 175
2673	SrMoO <sub>4</sub> Strontium molybdate	247.56	mp 1460
2674	Sr <sub>3</sub> N <sub>2</sub> Tristrontium dinitride	290.87	dec >1000
2675	Sr(NCS) <sub>2</sub> (·3H <sub>2</sub> O) Strontium thiocyanate	203.79	-H <sub>2</sub> O 100, dec >160
2676	SrN <sub>2</sub> O <sub>2</sub> (·5H <sub>2</sub> O) Strontium hyponitrite	146.63	-H <sub>2</sub> O 100
2677	Sr(NO <sub>2</sub> ) <sub>2</sub> (·H <sub>2</sub> O) Strontium nitrite	179.63	-H <sub>2</sub> O ca. 100, dec 240
2678	Sr(NO <sub>3</sub> ) <sub>2</sub> (·4H <sub>2</sub> O) Strontium nitrate	211.63	-H <sub>2</sub> O 100, dec 450
2679	SrO Strontium oxide	103.62	mp 2650, bp ca. 3000
2680	SrO <sub>2</sub> (·8H <sub>2</sub> O) Strontium peroxide	119.62	-H <sub>2</sub> O 100, mp 215 dec
2681	Sr(OH) <sub>2</sub> Strontium hydroxide	121.63	mp 460, dec >500
2682	Sr(OH) <sub>2</sub> ·8H <sub>2</sub> O	265.75	-H <sub>2</sub> O 100
2683	Sr <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> Strontium orthophosphate	452.80	mp 1650
2684	SrS Strontium sulfide	119.69	mp ca. 2000 dec
2685	SrSO <sub>4</sub> Strontium sulfate	183.68	mp 1500 (p), dec 1580

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2639	wh	+	i	+	+	+	r	r
2640	brn, ca. 5.1	i	...	-/+	-/+	-/+	+	i
2641	yel (t → brn), 4.5	i	i	-/+	i	-/+	+	+
2642	dk-brn lq hydr, 1.18	r	i	-/+	-/+	-/+	-/+	-
2643	wh	r	...	+	-/r	-	+	+
2644	wh	r/+	...	+	-/+	-	+	+
2645	dk-grey, 6.18	i	...	+	+	+	i	i
2646	brn, 5.13	-	...	-/+	-/+	-/+	-	-
2647	grey, 6.48	i	...	+	+	+	i	i
2648	lt-yel, 2.630	+	+	+	+	+	+	+
2649	dk-grey, 3.39	-	i	+	-	+	-	-
2650	wh, 4.22	r	r	r	+	-	+	+
2651	wh, 2.36	r	r	r	+	-	+	+
2652	wh hydr, 3.77	r	...	-	+	-	+	+
2653	blk, 3.2	+	...	+	+	+	+	+
2654	wh, 2.10	r	i	r	+	r	+	+
2655	wh, 3.70	i	i	+	+	+	i	i
2656	wh	i	...	-/+	-/+	-/+	-	i
2657	wh, 3.05	r	d	r	+	r	+	+
2658	wh, 1.93	r	r	r	+	r	+	+
2659	wh, 4.18	i	d	i	-	-	i	i
2660	wh, 3.15	r	d	-/+	+	-	+	+
2661	wh hydr	r	r	-	+	r	+	+
2662	yel, 3.90	d	d	+	+	+	d	d
2663	red	r	...	-	-	-	+	+
2664	wh, 4.24	i/+	d	i	-	-	i	i
2665	wh, 3.27	+	+	+	+	+	+	+
2666	wh, 3.54	i	...	-/+	-/+	-/+	-/+	-/+
2667	wh	r/+	i	+	+	+	+	+
2668	wh	-	...	-	-/+	-	-	-
2669	wh, 4.55	r	r	r	-/+	-/+	+	+
2670	wh, 4.42	r	r	-	-/+	-/+	+	+
2671	wh, 5.05	i	...	-/+	+	-	-	-
2672	viol hydr, 2.75	r	r	-/+	+	r	-	-/+
2673	lt-grey, 4.54	i	...	+	+	+	-	-
2674	grey	+	...	+	+	+	+	+
2675	wh	r	r	-	+	-/+	+	+
2676	wh hydr, 2.17	d	...	-/+	+	d	-/+	-
2677	wh, 2.87(2.41)	r	d	-/+	+	r/+	+	+
2678	wh, 2.99(2.25)	r	d	r	+	r	+	+
2679	wh, 5.02	+	d	+	+	+	+	+
2680	wh, 4.56(1.95)	-/+	r	+	+	+	+	+
2681	wh, 3.63(1.9)	d	...	+	+	+	d	d
2682	wh	d	...	+	+	+	d	d
2683	wh	i	...	r	r	r	i	i
2684	wh, 3.65	r/+	r	+	+	+	+	+
2685	wh, 3.96	i	i	-	i	-	i	i

No.	Formula and name	$M_r$	Phase transition temperature
2686	$\text{SrS}_2\text{O}_6 \cdot (4\text{H}_2\text{O})$ Strontium dithionate	247.75	$-\text{H}_2\text{O}$ 78, dec $t$
2687	$\text{SrS}_4\text{O}_6 \cdot (6\text{H}_2\text{O})$ Strontium tetrathionate	311.88	$-\text{H}_2\text{O}$ >50
2688	$\text{Sr}(\text{SO}_3\text{S}) \cdot (5\text{H}_2\text{O})$ Strontium thiosulfate	199.75	$-\text{H}_2\text{O}$ 189
2689	$\text{SrSe}$ Strontium selenide	166.58	mp 1600
2690	$\text{SrSeO}_4$ Strontium selenate	230.58	dec >1650
2691	$\text{SrSiO}_3 \cdot (2\text{H}_2\text{O})$ Strontium metasilicate	163.70	$-\text{H}_2\text{O}$ 850, mp 1580
2692	$\text{Sr}_2\text{SiO}_4$ Strontium orthosilicate	267.32	mp 2325
2693	$\text{SrTe}$ Strontium telluride	215.22	mp 1490
2694	$(\text{SrTi})\text{O}_3$ Strontium-titanium trioxide	183.50	mp 2080
2695	$\text{SrWO}_4$ Strontium wolframate	335.47	mp 1535 dec
2696	$(\text{SrZr})\text{O}_3$ Strontium-zirconium trioxide	226.84	mp 2750
2697	<b>T<sub>2</sub> Ditrutium</b>	6.032	mp $-252.52$ ; bp $-248.12$
2698	$\text{T}_2\text{O}$ Tritium oxide	22.03	mp 4.5
2699	<b>Ta Tantalum</b>	180.948	mp 3010, bp 5425
2700	$\text{TaB}_2$ Tantalum diboride	202.57	mp 3200
2701	$\text{TaBr}_4$ Tantalum(IV) bromide	500.56	subl >310
2702	$\text{TaBr}_5$ Tantalum(V) bromide	580.47	mp 265.8; bp 348.8
2703	$\text{Ta}_6\text{Br}_{15}$ Hexatantalum 15-bromide	2284.25	subl >450
2704	TaC Tantalum monocarbide	192.96	mp 3780 dec
2705	$\text{Ta}_2\text{C}$ Ditantalum carbide	373.91	mp 3500
2706	$[\text{Ta}(\text{C}_5\text{H}_5)\text{Cl}_4]$ Cyclopentadienyltetrachloro-tantalum	387.86	subl 230
2707	$\text{TaCl}_3$ Tantalum(III) chloride	287.31	dec >440
2708	$\text{TaCl}_4$ Tantalum(IV) chloride	322.76	subl 300 dec
2709	$\text{TaCl}_5$ Tantalum(V) chloride	358.21	mp 216.5; bp 239
2710	$\text{Ta}_6\text{Cl}_{15}$ Hexatantalum 15-chloride	1617.48	subl >470
2711	$\text{TaCl}_3\text{O}$ Tantalum trichloride-oxide	303.31	soft 327 dec
2712	$\text{TaF}_5$ Tantalum(V) fluoride	275.94	mp 96.8; bp 229.5
2713	$[\text{TaF}_7], \text{K}_2$ Potassium heptafluorotantalate(V)	392.13	mp 775
2714	$[\text{TaF}_8], \text{K}_3$ Potassium octafluorotantalate(V)	450.23	mp 780
2715	$(\text{Ta}_2\text{Fe})\text{O}_6$ Ditantalum-iron hexaoxide	513.74	dec >1900
2716	$\text{TaH}_{1-x}$ ( $0.12 \leq x \leq 0.4$ ) Tantalum monohydride	181.96	>800 $\rightarrow$ Ta
2717	$\text{TaI}_4$ Tantalum(IV) iodide	688.56	mp 398; $t \rightarrow \text{Ta}_6\text{I}_{14}$
2718	$\text{TaI}_5$ Tantalum(V) iodide	815.47	mp 380, bp 543
2719	$\text{Ta}_6\text{I}_{14}$ Hexatantalum 14-iodide	2862.34	subl >535
2720	$(\text{Ta}_2\text{Mn})\text{O}_6$ Ditantalum-manganese hexaoxide	512.83	dec >2000
2721	TaN Tantalum mononitride	194.96	mp ca. 3090 dec
2722	$\text{Ta}_3\text{N}_5$ Tritantalum pentanitride	612.88	$\geq 1000 \rightarrow \text{TaN}$
2723	$\text{Ta}_2\text{O}_5$ Tantalum(V) oxide	441.89	mp 1890
2724	$\text{Ta}_2\text{O}_5 \cdot n\text{H}_2\text{O}$	—	$-\text{H}_2\text{O}$ >600
2725	$\text{Ta}(\text{OH})_3$ Tantalum(III) hydroxide	231.97	dec $t$
2726	$\text{TaSi}_2$ Tantalum disilicide	237.12	mp ca. 2200
2727	<b>Tb Terbitium</b>	158.925	mp 1356, bp 3073
2728	$\text{Tb}_2(\text{C}_2\text{O}_4)_3 \cdot (10\text{H}_2\text{O})$ Terbitium(III) oxalate	581.90	hydr >600 $\rightarrow \text{Tb}_2\text{O}_3$
2729	$\text{TbCl}_3 \cdot (6\text{H}_2\text{O})$ Terbitium(III) chloride	265.28	mp hydr 153, mp 588
2730	$\text{TbF}_3$ Terbitium(III) fluoride	215.92	mp 1177, bp 2880
2731	$\text{TbF}_4$ Terbitium(IV) fluoride	234.92	dec 180

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2686	wh hydr, 2.37	r	i	+	+	+	+	+
2687	wh hydr, 2.15	r	...	r	-/+	-	-	-
2688	wh, 2.92(2.17)	d	i	-/+	-/+	+	-/+	-
2689	wh, 5.54	+	...	+	+	+	+	+
2690	wh, 4.23	d	...	-/+	-/+	-	-	-
2691	wh, 3.65	i	i	+	+	+	-	-
2692	wh, 3.84	i/+	i	+	+	+	-/+	-
2693	wh, 4.83	i/+	...	+	+	+	i	i
2694	wh	-	-	-/+	-/+	-/+	-	-
2695	wh, 6.19	i	i	+	+	+	-	-
2696	wh	-	-	+	+	+	-	-
2697	cl gas	i	i	-	-	-	-	-
2698	cl lq	∞	∞	r	r	r	r	r
2699	grey, 16.60	-	-	-	-	-	-	-
2700	wh, 12.38	-	i	-	-	-	-/+	-
2701	dk-grn, 5.77	+	...	+	+	+	+	+
2702	orange-yel, 4.67	+	r	+	+	+	+	+
2703	blk-grn, 6.29	+	...	+	+	+	+	+
2704	yel-grey, 14.5	-	i	-	-/+	-	-	-
2705	dk-grey, 15.0	-	i	-	-/+	-	-	-
2706	yel	+	i	+	+	+	+	+
2707	grn	r	...	r	-	-	+	+
2708	blk-brn, 4.35	+	...	+	+	+	+	+
2709	wh, 3.68	+	r	+	+	+	+	+
2710	blk-grn, 5.10	-	...	r	-/+	-/+	+	+
2711	wh	+	...	+	+	+	+	+
2712	wh, 4.74	+	d	+	+	+	+	+
2713	wh	d	...	+	+	+	+	+
2714	wh	+	...	+	+	+	+	+
2715	lt-brn, 7.33	-	...	-	-/+	-	-/+	-
2716	grey	-	i	+	+	+	+	+
2717	blk	+	...	+	+	+	+	+
2718	blk-brn, 5.80	+	...	+	+	+	+	+
2719	grn, 6.85	+	...	+	+	+	+	+
2720	blk, 7.03	-	...	-	-/+	-	-/+	-
2721	grey-sk-bl, 16.30	-	i	-	-/+	-/+	-	-
2722	red, 9.85	-	i	-	-/+	-/+	-	-
2723	wh, 8.24	-	i	-	-	-	-	-
2724	wh	i	i	+	+	+	i/+	i
2725	grn	i/+	...	+	+	+	i	i
2726	grey	-	i	-	-	-	-	-
2727	wh, 8.234	psv/+	-	+	+	+	-	-
2728	wh hydr	i	...	-/+	i/+	-/+	i	i
2729	wh, 4.35	r	r	r	-	-	+	+
2730	wh	i	i	-	-	i	i	-
2731	yel	i/+	...	i	i	i	+	+

No.	Formula and name	$M_r$	Phase transition temperature
2732	Tb(NO <sub>3</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Terbium(III) nitrate	344.94	mp hydr 89.3; dec hydr <i>t</i>
2733	Tb <sub>2</sub> O <sub>3</sub> Terbium(III) oxide	365.85	mp 2000, bp ca. 4300
2734	Tb(OH) <sub>3</sub> Terbium(III) hydroxide	209.95	dec <i>t</i>
2735	Tb <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> (·8H <sub>2</sub> O) Terbium(III) sulfate	606.04	-H <sub>2</sub> O 360, dec >850
<b>2736 Tc Technetium</b>		97.907	mp 2250, bp ca. 4600
2737	TcBr <sub>3</sub> O Technetiumtribromide-oxide	353.62	subl 400
2738	[Tc <sub>2</sub> (CO) <sub>10</sub> ] Dodecacarbonylditechnetium	475.91	mp 159-160
2739	TcCl <sub>4</sub> Technetium(IV) chloride	239.72	subl >300
2740	TcCl <sub>6</sub> Technetium(VI) chloride	310.63	dec >20
2741	[TcCl <sub>6</sub> ] <sub>2</sub> K <sub>2</sub> Potassium hexachlorotechnetate(IV)	388.82	dec <i>t</i>
2742	Tc(ClO) <sub>3</sub> Technetium chloride-trioxide	181.36	bp 25
2743	TcCl <sub>3</sub> O Technetium trichloride-oxide	220.27	subl 900
2744	TcF <sub>5</sub> Technetium(V) fluoride	192.90	mp 50
2745	TcF <sub>6</sub> Technetium(VI) fluoride	211.90	mp 37, bp 55
2746	[TcF <sub>6</sub> ] <sub>2</sub> K Potassium hexafluorotechnetate(V)	250.99	dec >150
2747	[TcF <sub>6</sub> ] <sub>2</sub> K <sub>2</sub> Potassium hexafluorotechnetate(IV)	290.09	dec >225
2748	TcO <sub>2</sub> Technetium(IV) oxide	129.91	>1000 → Tc, Tc <sub>2</sub> O <sub>7</sub>
2749	Tc <sub>2</sub> O <sub>7</sub> Technetium(VII) oxide	307.81	mp 119.5; dec 260
2750	TcOF <sub>4</sub> Technetium oxide-tetrafluoride	189.90	mp 134
2751	TcO <sub>3</sub> F Technetium trioxide-fluoride	164.90	mp 18, bp 100
2752	Tc(OH) <sub>4</sub> Technetium(IV) hydroxide	165.94	400 → TcO <sub>2</sub>
2753	Tc <sub>2</sub> S <sub>7</sub> Technetium(VII) sulfide	420.28	dec >230
<b>2754 Te Tellurium</b>		127.60	mp 449.8; bp 990
2755	TeBr <sub>2</sub> Tellurium dibromide	287.41	mp 280, bp 339
2756	TeBr <sub>4</sub> Tellurium tetrabromide	447.22	mp 380, bp 421
2757	TeCl <sub>2</sub> Tellurium dichloride	198.51	mp 208, bp 328
2758	TeCl <sub>4</sub> Tellurium tetrachloride	269.41	mp 224, bp 380
2759	TeF <sub>4</sub> Tellurium tetrafluoride	203.59	mp 129.6
2760	TeF <sub>6</sub> Tellurium hexafluoride	241.59	subl -38.9; mp -37.6
2761	TeI <sub>4</sub> Tellurium tetraiodide	635.22	dec 100, mp 280 ( <i>p</i> )
2762	[TeMo <sub>6</sub> O <sub>24</sub> ](NH <sub>4</sub> ) <sub>6</sub> (·7H <sub>2</sub> O) Ammonium 24-oxohe- xamolybdotellurate(VI)	1195.45	dec hydr 550
2763	TeO <sub>2</sub> Tellurium dioxide	159.60	mp 733, bp 1257
2764	TeO <sub>3</sub> Tellurium trioxide	175.60	dec >400
<b>2765 Th Thorium</b>		232.038	mp 1750, bp ca. 4200
2766	ThB <sub>6</sub> Thorium hexaboride	296.90	mp 2195
2767	ThBr <sub>4</sub> (·4H <sub>2</sub> O) Thorium(IV) bromide	551.65	mp 678, bp 857
2768	ThC Thorium monocarbide	244.05	mp 2625
2769	ThC <sub>2</sub> Thorium dicarbide	256.06	mp 2655, bp ca. 5000
2770	ThCl <sub>4</sub> Thorium(IV) chloride	373.85	mp 770, bp 922
2771	ThF <sub>4</sub> (·4H <sub>2</sub> O) Thorium(IV) fluoride	308.03	mp 1110, bp 1680
2772	ThI <sub>4</sub> Thorium(IV) iodide	739.65	mp 566, bp 837
2773	ThN Thorium mononitride	246.05	mp 2630
2774	Th(NO <sub>3</sub> ) <sub>4</sub> (·5H <sub>2</sub> O) Thorium(IV) nitrate	480.05	hydr >400 → ThO <sub>2</sub>
2775	ThO <sub>2</sub> Thorium(IV) oxide	264.04	mp 3350, bp ca. 4400
2776	Th(OH) <sub>4</sub> Thorium(IV) hydroxide	300.07	>470 → ThO <sub>2</sub>
2777	Th(PO <sub>3</sub> ) <sub>4</sub> Thorium(IV) metaphosphate	547.92	dec >1500

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> , H <sub>2</sub> O
2732	wh hydr	r	r	r	-	r	+	+
2733	wh, ca. 7.5	-/+	...	+	+	+	-	-
2734	wh	i	...	+	+	+	i	i
2735	wh hydr	d	...	-	d	-	+	+
2736	wh, 11.49	-	-	-	-/+	+	-	-
2737	brn	-/+	...	-/+	+	+	+	+
2738	wh	i	d	-	-/+	-/+	+	-
2739	dk-red, 3.3	+	...	+	+	+	+	+
2740	grn	+	+	+	+	+	+	+
2741	yel, 3.6	+	...	+/r	+	+	+	+
2742	cl lq	+	...	+	+	+	+	+
2743	brn	-/+	...	+	+	+	+	+
2744	dk-yel	+	...	+	+	+	+	+
2745	yel, 3.02	+	+	+	+	+	+	+
2746	lt-yel	+	...	+	+	+	+	+
2747	lt-pink	r	...	-	-/+	-/+	-/+	-
2748	blk-brn, 6.9	-	...	+	+	+	-	-
2749	lt-yel, 3.5	+	r	+	+	+	+	+
2750	dk-yel	+	...	+	+	+	+	+
2751	yel lq	+	...	+	+	+	+	+
2752	brn-blk	i	...	+	+	+	+	i
2753	brn-blk	i/+	...	-	-/+	-/+	+	-
2754	grey, 6.13	-	-	-/+	+	+	-/+	-
2755	brn	+	...	+	+	+	+	+
2756	yel-orange, 4.31	+	...	+	+	+	+	+
2757	dk-grn, 7.05	+	...	-	-	-	+	...
2758	wh, 3.26	+	r	+	+	+	+	+
2759	wh	+	...	+	+	+	+	+
2760	cl gas	+	...	+	+	+	+	+
2761	dk-grey, 5.05	+	...	+	+	+	+	+
2762	wh hydr, 2.78	r	...	-	-	-	+	-/+
2763	wh (r → yel), 5.67	-	...	+	-/+	-/+	+	+
2764	grey, 5.64	-/+	i	-/+	-	-	-/+	-
2765	wh, 11.72	psv	-	-/+	psv	psv	-	-
2766	blk-viol, 7.31	-	...	-	-	+	-	-
2767	wh, 5.69(5.67)	r	...	-	-/+	-	+	+
2768	blk	+	...	+	+	+	+	+
2769	grey-blk, 8.96	+	...	+	+	+	+	+
2770	wh, 4.60	r/+	r	r	-	-	+	+
2771	wh, 5.71(3.36)	i	...	i	-	-	i	i
2772	yel, 6.00	r/+	r	-	-/+	-/+	+	+
2773	yel, 11.9	-	...	-	-/+	-/+	-/+	-
2774	wh hydr, 2.80	r/+	r	r	-	r	+	+
2775	wh, 9.7	-	i	-	-/+	-	-	-
2776	wh	i	...	+	+	+	i	i
2777	wh, 4.08	i	i	-	-/+	-	-/+	-

No.	Formula and name	$M_r$	Phase transition temperature
2778	ThS <sub>2</sub> Thorium(IV) sulfide	296.17	mp 1930 dec
2779	Th(SO <sub>4</sub> ) <sub>2</sub> · (9H <sub>2</sub> O) Thorium(IV) sulfate	424.16	dec hydr >400
2780	Th(SeO <sub>4</sub> ) <sub>2</sub> · (9H <sub>2</sub> O) Thorium(IV) selenate	517.95	-H <sub>2</sub> O 220
2781	ThSi <sub>2</sub> Thorium disilicide	288.21	mp 1640 dec
2782	ThSiO <sub>4</sub> · (nH <sub>2</sub> O) Thorium(IV) orthosilicate	324.12	mp 1975 dec
<b>2783</b>	<b>Ti Titanium</b>	47.88	mp 1668, bp 3260
2784	TiB <sub>2</sub> Titanium diboride	69.50	mp 2850
2785	TiBr <sub>2</sub> Titanium(II) bromide	207.69	dec >500
2786	TiBr <sub>3</sub> · (6H <sub>2</sub> O) Titanium(III) bromide	287.59	mp hydr 115, dec >400
2787	TiBr <sub>4</sub> Titanium(IV) bromide	367.50	mp 38, bp 231
2788	TiC <sub>1-x</sub> Titanium monocarbide	59.89	mp 2781, bp 4300
2789	[Ti(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ] Bis(cyclopentadienyl)titanium	178.07	mp 173
2790	[Ti(C <sub>5</sub> H <sub>5</sub> )Cl <sub>3</sub> ] Cyclopentadienyltrichlorotitanium	219.33	mp 216.75
2791	[Ti(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> Cl] Bis(cyclopentadienyl)chlorotitanium	213.52	mp 283
2792	[Ti(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> Cl <sub>2</sub> ] Bis(cyclopentadienyl)dichlorotitanium	248.98	mp 289-291
2793	[Ti(CO) <sub>2</sub> (C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ] Dicarbonylbis(cyclopentadienyl)titanium	234.09	dec >90
2794	TiCl <sub>2</sub> Titanium(II) chloride	118.79	mp 1035
2795	TiCl <sub>3</sub> · (6H <sub>2</sub> O) Titanium(III) chloride	154.24	dec 440
2796	TiCl <sub>4</sub> Titanium(IV) chloride	189.69	mp -24.1, bp 136.3
2797	Ti(Cl)F <sub>3</sub> Titanium chloride-trifluoride	140.33	dec 125
2798	TiCl <sub>2</sub> O Titanium dichloride-oxide	118.79	dec 180
2799	Ti(ClO <sub>4</sub> ) <sub>4</sub> Titanium(IV) perchlorate	445.68	mp 85, dec 110
2800	(TiCo <sub>2</sub> )O <sub>4</sub> Titanium-dicobalt tetraoxide	229.74	dec <i>t</i>
2801	TiF <sub>3</sub> Titanium(III) fluoride	104.87	dec >950
2802	TiF <sub>4</sub> Titanium(IV) fluoride	123.87	subl 285.5
2803	[TiF <sub>6</sub> ] <sub>2</sub> · K <sub>2</sub> · (H <sub>2</sub> O) Potassium hexafluorotitanate(IV)	240.06	-H <sub>2</sub> O 32, mp 780
2804	(TiFe)O <sub>3</sub> Titanium-iron trioxide	151.72	mp 1367, dec >1900
2805	(TiFe <sub>2</sub> )O <sub>4</sub> Titanium-diiron tetraoxide	223.57	dec >2100
2806	TiH <sub>2-x</sub> (0 ≤ x ≤ 0.5) Titanium dihydride	49.90	dec 400
2807	TiI <sub>2</sub> Titanium(II) iodide	301.69	mp 600, bp 1170
2808	TiI <sub>4</sub> Titanium(IV) iodide	555.50	mp 155, bp 379.5
2809	TiI <sub>2</sub> O Titanium diiodide-oxide	317.69	dec 105
2810	(TiMn)O <sub>3</sub> Titanium-manganese trioxide	150.82	mp 1404
2811	TiN Titanium mononitride	61.89	mp ca. 3000
2812	Ti(NO <sub>3</sub> ) <sub>4</sub> Titanium(IV) nitrate	295.90	mp 58
2813	TiO <sub>1+x</sub> (-0.23 ≤ x ≤ 0.3) Titanium(II) oxide	63.88	mp 1780, bp 3227
2814	α-TiO <sub>2</sub> Titanium(IV) oxide	79.88	650 → γ-TiO <sub>2</sub>
2815	β-TiO <sub>2</sub>	79.88	915 → γ-TiO <sub>2</sub>
2816	γ-TiO <sub>2</sub>	79.88	mp 1870, bp ca. 3000
2817	Ti <sub>2</sub> O <sub>3</sub> Titanium(III) oxide	143.76	mp 1830 bp ca. 3000
2818	Ti(O)F <sub>2</sub> Titanium(IV) oxide-difluoride	101.88	dec 146
2819	Ti(OH) <sub>3</sub> Titanium(III) hydroxide	98.90	dec <i>t</i>
2820	TiO(OH) <sub>2</sub> Titanium oxide-hydroxide	97.89	dec 600-700
2821	TiP Titanium monophosphide	78.85	mp 1860
2822	(TiPb) <sub>3</sub> O <sub>3</sub> Titanium-lead trioxide	303.08	mp ca. 1290

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2778	blk-brn, 7.36	i/+	...	+	+	+	i	i
2779	wh, 4.23(2.77)	d	...	-	d	-	+	+
2780	wh hydr, 3.03	d	...	-	i	-	-/+	-/+
2781	blk, 7.63	-	i	-/+	-	-	+	-
2782	wh, 4.6	i	...	-	-	-	-/+	-
2783	wh, 4.51	psv/+	-	-/+	psv/+	psv/+	-/+	-
2784	grey, 4.45	-	i	-	-/+	+	-	-
2785	blk, 4.41	+	r	+	+	+	+	+
2786	red-viol, 4.24	r	r	+	-/+	-	+	+
2787	yel, 3.25	+	r	+	+	+	+	+
2788	blk-grey, 4.93	-	...	-	+	+	-	-
2789	dk-grn	+	...	+	+	+	+	+
2790	yel	+	r	+	+	+	+	...
2791	brn	i/+	r	-	+	+	-/+	...
2792	red, 1.60	+	r	+	+	+	+	+
2793	red-brn	+	r	+	+	+	+	+
2794	blk, 3.13	+	r	+	+	+	+	+
2795	dk-viol, 2.64	r	r	r	-	-	+	+
2796	cl lq, 1.726 <sup>20</sup>	+	r	+	+	+	+	+
2797	yel	+	...	+	+	+	+	+
2798	yel, 2.45	+	...	+	+	+	+	+
2799	wh	i/+	r	+	+	+	+	+
2800	grn-blk, 5.1	-	-	-/+	-/+	-	-	-
2801	dk-bl, 2.98	i	i	-	-	-	-	-
2802	wh, 2.80	+	r	+	+	+	+	+
2803	wh	d	...	+	+	+	+	-
2804	blk, 4.74	-	-	-/+	-/+	-	-	-
2805	dk-brn, 4.78	-	-	-/+	-/+	-	-	-
2806	grey, 3.91	-/+	+	+	+	+	+	+
2807	blk, 4.99	+	r	+	+	+	+	+
2808	red-brn, 4.40	+	...	+	+	+	+	+
2809	brn	+	...	+	+	+	+	+
2810	yel-red, 4.54	-	-	-/+	-/+	-/+	-/+	-
2811	yel-brn, 5.43	-	i	-	-	-	-/+	-
2812	wh, 2.16	+	+	+	+	+/-	+	+
2813	yel, 4.89	-	...	+	+	+	-	-
2814	wh, 4.14	-	...	-	-/+	-	-/+	-
2815	wh, 3.90	-	...	-	-/+	-	-/+	-
2816	wh, 4.85	-	...	-	-/+	-/+	-/+	-
2817	dk-viol, 4.59	-	...	-	+	-/+	-	-
2818	yel	+	...	+	+	+	+	+
2819	viol	i	...	+	+	+	i	i
2820	wh	i	i	+	+	+	i/+	i
2821	grey, 3.95	-	...	-	-/+	-/+	-/+	-
2822	yel, 7.52	-	...	-/+	-/+	-	-/+	-

No.	Formula and name	$M_r$	Phase transition temperature
2823	TiS Titanium(II) sulfide	79.95	mp 1930
2824	TiS <sub>2</sub> Titanium(IV) sulfide	112.01	...
2825	Ti <sub>2</sub> S <sub>3</sub> Titanium(III) sulfide	191.96	dec 690–1200
2826	Ti <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> Titanium(III) sulfate	383.95	dec 500–600
2827	TiSO <sub>4</sub> (OH) <sub>2</sub> Titanium sulfate-dihydroxide	177.96	mp 580 dec
2828	TiSi <sub>2</sub> Titanium disilicide	104.05	mp 1540
<b>2829</b>	<b>Tl Thallium</b>	204.383	mp 303.6; bp 1457
2830	TlAl(SO <sub>4</sub> ) <sub>2</sub> (·12H <sub>2</sub> O) Thallium(I)-aluminum sulfate	423.49	mp hydr 91, dec hydr <i>t</i>
2831	Tl <sub>3</sub> AsS <sub>4</sub> Thallium(I) tetrathioarsenate	816.34	mp 425
2832	TlBr Thallium(I) bromide	284.29	mp 461, bp 816
2833	TlC <sub>5</sub> H <sub>5</sub> Thallium(I) cyclopentadienide	269.48	mp >230
2834	Tl(CH <sub>3</sub> COO) Thallium(I) acetate	263.43	mp 131, dec ca. 200
2835	Tl(CH <sub>3</sub> COO) <sub>3</sub> (·1.5H <sub>2</sub> O) Thallium(III) acetate	381.52	mp 182 dec
2836	Tl <sub>2</sub> CO <sub>3</sub> Thallium(I) carbonate	468.77	mp 272, 360 → Tl <sub>2</sub> O
2837	Tl <sub>2</sub> C <sub>2</sub> O <sub>4</sub> Thallium(I) oxalate	496.78	dec >350
2838	TlCl Thallium(I) chloride	239.84	mp 431, bp 818
2839	TlCl <sub>3</sub> Thallium(III) chloride	310.74	dec 40, mp 155 ( <i>p</i> )
2840	TlClO <sub>3</sub> Thallium(I) chlorate	287.83	dec 500
2841	TlClO <sub>4</sub> Thallium(I) perchlorate	303.83	mp 501, dec <i>t</i>
2842	Tl <sub>2</sub> CrO <sub>4</sub> Thallium(I) chromate	524.76	mp 635
2843	Tl <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> Thallium(I) dichromate	624.75	mp 360 dec
2844	TlF Thallium(I) fluoride	223.38	mp 322, bp 840 dec
2845	TlF <sub>3</sub> Thallium(III) fluoride	261.38	mp 550 dec
2846	Tl(HCOO) Thallium(I) formate	249.40	mp 104, dec ca. 200
2847	TlH <sub>2</sub> PO <sub>4</sub> Thallium(I) dihydroorthophosphate	301.37	mp ca. 190
2848	Tl <sub>2</sub> HPO <sub>4</sub> (·2H <sub>2</sub> O) Thallium(I) hydroorthophosphate	504.74	hydr 200 → Tl <sub>4</sub> P <sub>2</sub> O <sub>7</sub>
2849	TlHSO <sub>4</sub> Thallium(I) hydrosulfate	301.45	mp 120 dec
2850	TlI Thallium(I) iodide	331.29	mp 442, bp 833 dec
2851	TlN <sub>3</sub> Thallium(I) azide	246.40	mp 334, dec >400
2852	TlNCS Thallium(I) thiocyanate	262.47	mp 234
2853	TlNO <sub>2</sub> Thallium(I) nitrite	250.39	mp 186
2854	TlNO <sub>3</sub> Thallium(I) nitrate	266.39	mp 206.5; dec >300
2855	Tl(NO <sub>3</sub> ) <sub>3</sub> (·3H <sub>2</sub> O) Thallium(III) nitrate	390.40	mp hydr 102, dec 300
2856	Tl <sub>2</sub> O Thallium(I) oxide	424.77	mp 303, bp ca. 1100
2857	Tl <sub>2</sub> O <sub>3</sub> Thallium(III) oxide	456.76	500 → Tl <sub>2</sub> O, mp 716 ( <i>p</i> )
2858	Tl <sub>2</sub> O <sub>3</sub> · <i>n</i> H <sub>2</sub> O	—	—H <sub>2</sub> O 100
2859	TlOH (·2H <sub>2</sub> O) Thallium(I) hydroxide	221.39	hydr 139 → Tl <sub>2</sub> O
2860	Tl <sub>3</sub> PO <sub>4</sub> Thallium(I) orthophosphate	708.12	dec ca. 250
2861	Tl <sub>4</sub> P <sub>2</sub> O <sub>7</sub> Thallium(I) diphosphate	991.47	dec >120
2862	Tl <sub>2</sub> S Thallium(I) sulfide	440.83	mp 448.9; bp 1177
2863	Tl <sub>2</sub> S <sub>3</sub> Thallium(III) sulfide	504.96	dec 260
2864	Tl <sub>2</sub> SO <sub>4</sub> Thallium(I) sulfate	504.83	mp 632
2865	Tl <sub>2</sub> S <sub>2</sub> O <sub>6</sub> Thallium(I) dithionate	568.89	dec <i>t</i>
2866	Tl <sub>2</sub> (SO <sub>3</sub> S) Thallium(I) thiosulfate	520.90	dec 130
2867	Tl <sub>2</sub> Se Thallium(I) selenide	487.73	mp 390

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2823	brn	i	...	-	-/+	-/+	i	i
2824	yel, 3.28	-	...	-/+	-/+	+	+	-
2825	dk-grey, 3.58	i	i	-	-/+	+	-	-
2826	grn	i	i	+	+/i	i/r	i	i
2827	wh	r/+	...	+	+	+	+	+
2828	lt-grey	-	...	-/+	-/+	-	-/+	-
2829	wh, 11.84	-	-	-	+	+	-	-
2830	wh hydr, 2.32	r	...	+	r	-	+	+
2831	red	i	i	+	+	+	i/+	i/+
2832	lt-yel, 7.5	d	r	+	-/+	-	-	-
2833	lt-yel	-	d	+	+	+	-	-
2834	wh, 3.68	r	r	+	+	-	r	r
2835	wh hydr	+	...	+	-	r	+	+
2836	wh, 7.11	r	i	+	+	+	-	-
2837	wh, 6.31	d	...	+	+	-	-	-
2838	wh, 7.0	d	r	+	-	-	-	-
2839	wh hydr, 3.03	+	r	+	-	-	+	+
2840	wh, 5.05	r	d	+	-/+	r	-	-
2841	wh, 4.89	r	d	+	-	r	-	-
2842	yel, 6.91	i	...	+	+	+	i	i
2843	orange-red	i	...	+	i	i	i/+	...
2844	wh, 8.40	r	d	+	-	r	r	r
2845	lt-grn, 8.36	+	...	+	+	+	+	+
2846	wh	r	d	+	-/+	-/+	r	r
2847	wh, 4.73	d	i	-	-/+	-/+	+	...
2848	wh	r	...	-	-/+	-/+	-	-
2849	wh	r	...	+	r/d	-	+	+
2850	yel, 7.29	i	d	+	-/+	-/+	i	i
2851	yel	d	i	+	-/+	-/+	-	-
2852	wh, 4.96	d	i	+	-/+	-/+	-	-
2853	yel	r	...	+	-/+	-/+	r	r
2854	wh, 5.56	r	i	+	-	r	r	r
2855	wh hydr	+	...	+	-	r	+	+
2856	dk-brn, 9.52	+	r	+	+	+	+	+
2857	brn-blk, 10.11	-	...	+	+	+	-	-
2858	red-brn	i	...	+	+	+	i	i
2859	lt-yel, 7.44	r	r	+	+	+	r	r
2860	wh, 6.89	d	i	+	+	-	-	-
2861	wh, 6.79	r	i	+	+	-	-/+	-
2862	blk-bl, 8.39	i	r	+	+	+	i	i
2863	blk	i	...	-	-/+	-/+	i	i
2864	wh, 6.77	d/r	...	+	d/r	-	-	-
2865	wh, 5.57	r	r	+	+	-/+	-	-
2866	wh	d/r	...	+	+	+	-	-
2867	grey, 9.05	i	...	+	+	+	i	i

No.	Formula and name	$M_r$	Phase transition temperature
2868	Tl <sub>2</sub> SeO <sub>4</sub> Thallium(I) selenate	551.72	mp >400
2869	TlVO <sub>3</sub> Thallium(I) metavanadate	303.32	mp 424
<b>2870 Tm Thulium</b>		168.934	mp 1545, bp 1947
2871	TmBr <sub>3</sub> Thulium(III) bromide	408.65	mp 954, bp 1440
2872	Tm <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> (·6H <sub>2</sub> O) Thulium(III) oxalate	601.92	hydr >600 → Tm <sub>2</sub> O <sub>3</sub>
2873	TmCl <sub>3</sub> Thulium(III) chloride	275.29	mp 824, bp 1490
2874	TmCl <sub>3</sub> ·6H <sub>2</sub> O	383.38	mp 154, dec <i>t</i>
2875	TmF <sub>3</sub> Thulium(III) fluoride	225.93	mp 1158, bp 2230
2876	TmI <sub>3</sub> Thulium(III) iodide	549.65	mp 1020, bp 1260
2877	Tm(NO <sub>3</sub> ) <sub>3</sub> (·5H <sub>2</sub> O) Thulium(III) nitrate	354.95	dec hydr <i>t</i>
2878	Tm <sub>2</sub> O <sub>3</sub> Thulium(III) oxide	385.87	mp 2000, bp ca. 4300
2879	Tm(OH) <sub>3</sub> Thulium(III) hydroxide	219.96	<i>t</i> → Tm <sub>2</sub> O <sub>3</sub>
2880	Tm <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> (·8H <sub>2</sub> O) Thulium(III) sulfate	626.05	-H <sub>2</sub> O 600, dec >850
<b>2881 U Uranium</b>		238.029	mp 1134, bp 4200
2882	UB <sub>2</sub> Uranium diboride	259.65	mp 2385
2883	UBr <sub>3</sub> Uranium(III) bromide	477.74	mp 730
2884	UBr <sub>4</sub> Uranium(IV) bromide	557.65	subl 519, bp 765
2885	UBr <sub>5</sub> Uranium(V) bromide	637.55	dec 80
2886	UC Uranium monocarbide	250.04	mp 2400
2887	UC <sub>2-x</sub> Uranium dicarbide	262.05	mp 2350, bp 4370
2888	[U(CO <sub>3</sub> ) <sub>3</sub> O <sub>2</sub> ] <sub>1</sub> (NH <sub>4</sub> ) <sub>4</sub> (·2H <sub>2</sub> O) Ammonium tricarbon- atodioxouranate(VI)	522.21	dec hydr 100
2889	UCl <sub>3</sub> Uranium(III) chloride	344.39	subl 835, bp 1780
2890	UCl <sub>4</sub> Uranium(IV) chloride	379.84	subl 590, bp 792
2891	UCl <sub>5</sub> Uranium(V) chloride	415.29	dec 120, mp 320 ( <i>p</i> )
2892	UCl <sub>6</sub> Uranium(VI) chloride	450.75	mp 177 dec
2893	UF <sub>3</sub> Uranium(III) fluoride	295.02	mp 1495, bp 2300
2894	UF <sub>4</sub> Uranium(IV) fluoride	314.02	mp 1036, bp 1730
2895	UF <sub>4</sub> ·2.5H <sub>2</sub> O	359.06	-H <sub>2</sub> O 450
2896	α-UF <sub>5</sub> Uranium(V) fluoride	333.02	dec >150, mp 287 ( <i>p</i> )
2897	β-UF <sub>5</sub>	333.02	mp 348, bp 530
2898	UF <sub>6</sub> Uranium(VI) fluoride	352.02	subl 56.4; mp 64 ( <i>p</i> )
2899	[UF <sub>5</sub> ] <sub>1</sub> NH <sub>4</sub> Ammonium pentafluorouranate(IV)	351.06	dec 270
2900	UH <sub>3-x</sub> Uranium trihydride	241.05	dec 330
2901	UI <sub>3</sub> Uranium(III) iodide	618.74	mp 680, bp ca. 1750
2902	UI <sub>4</sub> Uranium(IV) iodide	745.65	dec 520
2903	UN Uranium mononitride	252.04	dec >1900, mp 2850 ( <i>p</i> )
2904	UO <sub>2+x</sub> (0 ≤ <i>x</i> ≤ 0.67) Uranium(IV) oxide	270.03	subl 1400, mp 2850
2905	UO <sub>3</sub> Uranium(VI) oxide	286.03	dec >500
2906	UO <sub>2</sub> (CH <sub>3</sub> COO) <sub>2</sub> (·2H <sub>2</sub> O) Uranyl acetate	388.12	-H <sub>2</sub> O 110, 275 → UO <sub>3</sub>
2907	(UO <sub>2</sub> )CO <sub>3</sub> (·1.5+2.0H <sub>2</sub> O) Uranyl carbonate	330.04	dec 500
2908	(UO <sub>2</sub> )C <sub>2</sub> O <sub>4</sub> (·3H <sub>2</sub> O) Uranyl oxalate	358.05	-H <sub>2</sub> O 100, dec 500
2909	(UO <sub>2</sub> )Cl <sub>2</sub> (·3H <sub>2</sub> O) Uranyl chloride	340.93	-H <sub>2</sub> O 400, mp 578
2910	UO <sub>2</sub> (ClO <sub>4</sub> ) <sub>2</sub> (·6H <sub>2</sub> O) Uranyl perchlorate	468.93	mp hydr 185, -H <sub>2</sub> O 270
2911	U(O)F <sub>4</sub> Uranium oxide-tetrafluoride	330.02	dec 150
2912	(UO <sub>2</sub> )F <sub>2</sub> Uranyl fluoride	308.02	dec 700

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2868	wh, 6.88	r	i	+	+	r	-	-
2869	grey, 6.09	d	...	+	+	-/+	-/+	-/+
2870	wh, 9.332	psv/+	-	+	+	+	-	-
2871	wh	r	r	-	-/+	-	+	+
2872	lt-grn hydr	i	...	-/+	i/+	-/+	i	-
2873	lt-yel	r	r	r	-	-	+	+
2874	grn	r	r	r	-	-	+	+
2875	lt grn	i	i	-	i	-	i	-
2876	yel-grn	r	r	-	-/+	-/+	+	+
2877	lt-grn hydr	r	r	r	-	r	+	+
2878	lt-grn, ca. 9	-/+	...	+	+	+	-	-
2879	grn	i	...	+	+	+	i	i
2880	grn	r	...	-	r	-	+	+
2881	wh, 19.04	+	-	+	+	+/psv	-	-
2882	grey, 12.82	-	...	-	-	-/+	-	-
2883	dk-red, 5.98	+	r	+	+	+	+	+
2884	dk-brn, 5.35	r/+	i	-	-/+	-	+	+
2885	blk-brn	+	...	+	+	+	+	+
2886	grey-blk, ca. 13.6	+	...	+	+	+	-	-
2887	lt-grey, 11.68	+	i	+	+	+	+	+
2888	yel hydr	r	r	+	+	+	+	+
2889	grn (t → red), 5.51	+	...	+	+	+	+	+
2890	dk-grn, 4.87	r/+	r	-	-	-	+	+
2891	red-brn, 3.81	+	+	+	+	+	+	+
2892	dk-grn, 3.59	+	...	+	+	+	+	+
2893	red-viol, 8.97	i/+	...	+	+	+	i	i
2894	grn, 6.72	i	...	-	-	i	i/+	-
2895	grn-sk-bl, 4.71	i	...	-	-	i	i/+	-
2896	wh, 5.81	+	+	+	+	+	+	+
2897	lt-yel, 6.45	+	+	+	+	+	+	+
2898	wh, 5.06	+	r/+	+	+	+	+	+
2899	grn	i	...	-/+	-/+	i/+	-	-
2900	grey-blk, 10.92	+	...	+	+	+	+	+
2901	blk, 6.76	+	r	+	+	+	+	+
2902	blk, 5.6	+	r	+	+	+	+	+
2903	grey, 14.32	+	...	-	-	-/+	-	-
2904	brn-blk, 10.96	-	...	-	-/+	-/+	-	-
2905	yel-orange, 8.34	+	...	+	+	+	+	+
2906	yel-grn hydr, 2.89	r/+	r	r	-	r	+	+
2907	lt-yel, 5.24	i	r	+	+	+	i	i
2908	yel hydr, 3.07	d	i	d	-/+	-/+	+	+
2909	yel, 5.43	r	r	r	-	-	+	+
2910	yel hydr, 2.57	r	...	-	-	-	+	+
2911	orange	+	...	+	+	+	+	+
2912	lt-yel, 6.37	r	r	-	-	r	+	+

No.	Formula and name	$M_r$	Phase transition temperature
2913	$[\text{UO}_2\text{F}_5]_n(\text{NH}_4)_3$ Ammonium dioxopentafluorourate(vi)	419.13	dec >185
2914	$\text{U}(\text{OH})_4$ Uranium(v) hydroxide	306.06	>350 $\rightarrow$ $\text{UO}_{2+x}$
2915	$\text{UO}_2(\text{NO}_3)_2 \cdot (6\text{H}_2\text{O})$ Uranyl nitrate	394.04	mp hydr 59.5; dec hydr 300
2916	$\text{UO}_2(\text{O}_2) \cdot (2\text{H}_2\text{O})$ Uranyl peroxide	302.03	dec hydr 260
2917	$\text{UO}_2(\text{OH})_2 \cdot (\text{H}_2\text{O})$ Uranyl hydroxide	304.04	400 $\rightarrow$ $\text{UO}_3$
2918	$(\text{UO}_2)_2\text{S}$ Uranyl sulfide	302.09	dec 40–50
2919	$(\text{UO}_2)_2\text{SO}_4 \cdot (3\text{H}_2\text{O})$ Uranyl sulfate	366.09	$-\text{H}_2\text{O}$ 175; 720 $\rightarrow$ $(\text{U}_2^{\text{V}}\text{U}^{\text{VI}})_2\text{O}_8$
2920	UP Uranium monophosphide	269.00	mp 2850
2921	US Uranium(III) sulfide	270.10	mp 2462
2922	$\text{U}(\text{S}_2)_2$ Uranium(III) disulfide(2-)	302.16	mp 1680 dec
2923	$\text{U}(\text{SO}_4)_2 \cdot (4\text{H}_2\text{O})$ Uranium(IV) sulfate	430.15	$-\text{H}_2\text{O}$ >300
2924	$\text{USi}_2$ Uranium disilicide	294.20	mp 1700
2925	$\text{U}_3\text{Si}_2$ Triuranium disilicide	770.26	mp 1665
2926	$\text{USiO}_4$ Uranium(IV) orthosilicate	330.11	mp ca. 1900
2927	$(\text{U}_2^{\text{V}}\text{U}^{\text{VI}})_2\text{O}_8$ Diuranium(v)-uranium(vi) oxide	842.08	dec >1500
<b>2928</b>	<b>V Vanadium</b>	50.942	mp 1920, bp 3450
2929	$\text{VB}_2$ Vanadium diboride	72.56	mp ca. 2400
2930	$\text{VBr}_2$ Vanadium(III) bromide	210.75	subl >1000
2931	$\text{VBr}_3$ Vanadium(III) bromide	290.65	subl >280; 500 $\rightarrow$ V
2932	$\text{V}(\text{Br})\text{O}$ Vanadium bromide-oxide	146.85	dec 480
2933	$\text{VBr}_2\text{O}$ Vanadium dibromide-oxide	226.75	subl ca. 600
2934	$\text{VBr}_3\text{O}$ Vanadium tribromide-oxide	306.65	dec 180
2935	$\text{VC}_{1-x}$ ( $0.1 \leq x \leq 0.3$ ) Vanadium monocarbide	62.95	mp 2810, bp ca. 3900
2936	$\text{V}_2\text{C}_{1-x}$ ( $0 \leq x \leq 0.2$ ) Divanadium carbide	113.90	mp 2165
2937	$[\text{V}(\text{C}_5\text{H}_5)_2]$ Bis(cyclopentadienyl)vanadium	181.13	mp 167.5
2938	$[\text{V}(\text{CO})_6]$ Hexacarbonylvanadium	219.00	dec >60–70
2939	$[\text{V}(\text{CO})_4\text{C}_5\text{H}_5]$ Tetracarbonyl(cyclopentadienyl)vanadium	228.08	mp 138; >150 $\rightarrow$ V
2940	$[\text{V}(\text{CO})_6]_n\text{Na}$ Sodium hexacarbonylvanadate(-I)	241.99	dec $t$
2941	$\text{VCl}_2$ Vanadium(III) chloride	121.85	subl 1000, mp ca. 1350
2942	$\text{VCl}_3$ Vanadium(III) chloride	157.30	dec 500
2943	$\text{VCl}_4$ Vanadium(IV) chloride	192.75	mp -20.5; bp 153 dec
2944	$\text{V}(\text{Cl})\text{O}$ Vanadium chloride-oxide	102.39	ca. 600 $\rightarrow$ $\text{VCl}_3, \text{V}_2\text{O}_3$
2945	$\text{V}(\text{Cl})\text{O}_2$ Vanadium chloride-dioxide	118.39	dec 150
2946	$\text{VCl}_2\text{O}$ Vanadium dichloride-oxide	137.85	subl ca. 600
2947	$\text{VCl}_3\text{O}$ Vanadium trichloride-oxide	173.30	mp -78, bp 126.7
2948	$\text{VF}_3$ Vanadium(III) fluoride	107.94	subl 800, mp 1410
2949	$\text{VF}_4$ Vanadium(IV) fluoride	126.93	dec >100
2950	$\text{VF}_5$ Vanadium(V) fluoride	145.93	mp 19.5; bp 47.9
2951	$[\text{VF}_6]_n\text{K}$ Potassium hexafluorovanadate(v)	204.03	dec 330
2952	$[\text{VF}_6]_n(\text{NH}_4)_3$ Ammonium hexafluorovanadate(III)	219.05	mp 1400
2953	$[\text{V}(\text{H}_2\text{O})_4\text{Cl}_2]\text{Cl} \cdot (2\text{H}_2\text{O})$ Tetraaquadichlorovanadium(III) chloride	229.36	dec hydr $t$

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2913	yel-grn	r	r	r	-	-	-/+	r
2914	lt-grn	i	...	+	+	+	-	-
2915	yel-grn hydr, 2.81	r	r	-	-	r	+	+
2916	lt-yel hydr	-	...	+	+	+	+	...
2917	yel, 5.93	i	...	+	+	+	i	i
2918	blk-brn	i	r	+	+	+	i	i
2919	yel hydr, 5.24	r	r	-	r	-	+	+
2920	grey-blk	-	...	-	-/+	-/+	-/+	-
2921	yel, 10.87	i	...	+	+	+	i	i
2922	grey-blk, 7.54	i/+	...	+	+	+	-	-
2923	grn hydr, 3.60	r/+	i	-	r	-	+	+
2924	lt-grey	-	...	-	-	-	-/+	-
2925	brn-blk	-	...	-	-	-	-/+	-
2926	grn, >5.1	i	...	-	-	-	-/+	-
2927	dk-grn, 8.39	-	...	-	-/+	+	-	-
2928	grey, 5.96	-	-	-	-/+	-/+	-	-
2929	grey, 5.10	-	i	-	-	-	-/+	-
2930	lt-brn, 4.58	r/+	i	+	-/+	+	+	+
2931	blk-grn, 4.44	d/+	r	+	-/+	-	+	+
2932	viol, 4.0	-	r	+	-/+	-	+	+
2933	dk-yel	-/+	r	+	-/+	-/+	+	...
2934	red lq, 2.933 <sup>15</sup>	+	...	+	+	+	+	+
2935	blk, 5.46-5.80	-	-	-	-	-/+	-	-
2936	dk-grey	-	-	-	-	-/+	-	-
2937	viol-blk	-/+	r	-	-/+	+	-	-
2938	blk	-/+	r/+	-	-/+	-/+	-	-
2939	lt-red	-/+	r	-/+	-/+	-/+	-/+	...
2940	yel	i/+	...	+	+	+	-	-
2941	lt-grn, 3.09	r/+	i	+	-/+	+	+	+
2942	viol, 2.87	+	r	+	-/+	-/+	+	+
2943	red-brn lq, 1.83 <sup>20</sup>	+	r	+	+	+	+	+
2944	yel-brn, 2.28	-	d	-	-/+	-/+	-	-
2945	orange-red, 2.29	+	r	+	+	+	+	+
2946	grn, 2.88	-/+	r	r/+	-	-/+	+	...
2947	yel lq, 1.829 <sup>20</sup>	+	r	+	+	+	+	+
2948	yel-grn, 3.63	d/+	d	+	-/+	-	+	...
2949	grn, 2.98	+	d	+	+	+	+	+
2950	wh, 2.18	+	r	+	+	+	+	+
2951	wh	+	...	+	+	+	+	...
2952	yel-grn	i	...	-	-/+	-/+	-/+	-
2953	grn hydr	d	r	-	+/-	+/-	+	+

No.	Formula and name	$M_r$	Phase transition temperature
2954	$[V(H_2O)_4(SO_4)O] \cdot (H_2O)$ Tetraaquisulfatooxovanadium	235.06	dec hydr 280
2955	$\alpha$ - $VI_2$ Vanadium(II) iodide	304.75	subl 800
2956	$\beta$ - $VI_2$	304.75	dec 1400
2957	$VI_3$ Vanadium(III) iodide	431.65	dec 280
2958	$VN_{1-x}$ ( $0 \leq x \leq 0.29$ ) Vanadium mononitride	64.95	mp ca. 2050
2959	$V_2N_{1-x}$ ( $0 \leq x \leq 0.26$ ) Divanadium nitride	115.89	mp ca. 2000
2960	$VNH_4(SO_4)_2 \cdot (12H_2O)$ Vanadium(III)-ammonium sulfate	261.11	mp hydr 45, dec $t$
2961	$VO_{1+x}$ ( $x = 0.25$ ) Vanadium(IV) oxide	66.94	mp 1830
2962	$VO_2$ Vanadium(V) oxide	82.94	mp 1640, bp ca. 2700
2963	$V_2O_3$ Vanadium(III) oxide	149.88	mp 1970, bp ca. 3000
2964	$V_2O_5$ Vanadium(V) oxide	181.88	mp 690, dec >700
2965	$V_2O_5 \cdot nH_2O$ ( $n = 1, 2, 3$ )	—	dec $t$
2966	$(VO)Br_2 \cdot (5H_2O)$ Vanadyl bromide	226.75	dec hydr 140
2967	$(VO)Cl_2 \cdot (5H_2O)$ Vanadyl chloride	137.85	dec hydr 120
2968	$V(O)F_3$ Vanadium oxide-trifluoride	123.94	subl 109.5
2969	$V(OH)_2$ Vanadium(III) hydroxide	84.96	dec $t$
2970	$V(OH)_3$ Vanadium(III) hydroxide	101.96	80 $\rightarrow$ $VO(OH)$
2971	$VO(OH)$ Vanadium metahydroxide	83.95	300 $\rightarrow$ $V_2O_3$
2972	$VO(OH)_2$ Vanadyl hydroxide	100.96	dec 700
2973	$VS_{1+x}$ ( $x = 0.17$ ) Vanadium(III) sulfide	83.01	dec ca. 1400
2974	$V_2S_{3-x}$ ( $-0.06 < x < 0.66$ ) Vanadium(III) sulfide	198.08	dec >600
2975	$VS_{2+x}$ ( $0.17 \leq x \leq 0.53$ ) Vanadium(IV) sulfide	115.07	dec >520
2976	$V_2S_5$ Vanadium(V) sulfide	262.21	dec >400
2977	$VSO_4 \cdot (7H_2O)$ Vanadium(III) sulfate	147.00	dec hydr $t$
2978	$V_2(SO_4)_3 \cdot (9H_2O)$ Vanadium(III) sulfate	390.07	dec >400
2979	$V_3Si$ Trivanadium silicide	180.91	mp 1910 dec
<b>2980 W Tungsten</b>		183.85	mp 3387, bp ca. 5680
2981	$WB_2$ Tungsten diboride	205.47	mp 2900
2982	$W_2B_5$ Ditungsten pentaboride	421.76	mp 2370 dec
2983	$WBr_2$ Tungsten(II) bromide	343.66	dec 400
2984	$WBr_3$ Tungsten(III) bromide	423.56	>180 $\rightarrow$ $WBr_2$
2985	$WBr_4$ Tungsten(IV) bromide	503.47	subl >240
2986	$WBr_5$ Tungsten(V) bromide	583.37	mp 295, bp 392
2987	$WBr_6$ Tungsten(VI) bromide	663.27	mp 309, dec >400 $\rightarrow$ $WBr_5$
2988	$WBr_2O$ Tungsten dibromide-oxide	359.66	subl 450
2989	$WBr_2O_2$ Tungsten dibromide-dioxide	375.66	subl >440
2990	$WBr_3O$ Tungsten tribromide-oxide	439.56	dec >420
2991	$WBr_4O$ Tungsten tetrabromide-oxide	519.45	mp 277, bp 331
2992	WC Tungsten monocarbide	195.86	mp 2780 dec
2993	$W_2C_{1+x}$ Ditungsten carbide	379.71	mp 2750, bp ca. 6000
2994	$[W(CN)_8]_2K_2 \cdot (2H_2O)$ Potassium octacyanowolframate(IV)	548.39	$-H_2O$ 115
2995	$[W(CO)_6]$ Hexacarbonyltungsten	351.91	mp 169, bp 175 dec
2996	$WCl_2$ Tungsten(II) chloride	254.76	>100 $\rightarrow$ $WCl_3, WCl_6$

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2954	bl hydr	+	d	+	+	+	+	+
2955	blk, 5.44	r/+	i	+	-/+	+	+	+
2956	pink-red, 5.25	r/+	i	+	-/+	+	+	+
2957	blk, 5.2	d/+	r	+	-/+	-/+	+	+
2958	blk, 6.04	-	...	-	-	-	-	-
2959	blk	-	...	-	-	-	-	-
2960	bl-viol hydr, 1.69	r	i	+	d	-	-/+	+
2961	lt-grey, 5.6-5.75	-	...	+	+	+	-	-
2962	bl-blk, 4.34	-	...	+	+	+	+	+
2963	blk, 4.87	-	...	-	-	-/+	-	-
2964	orange, 3.36	-	r	+	+	+	+	+
2965	yel	i	...	+	+	+	+	+
2966	bl hydr	r	r	-/+	-/+	-	+	+
2967	bl hydr	r	r	r/+	-	-/+	+	+
2968	lt-yel, 2.46	+	...	+	+	+	+	+
2969	brn	i	...	+	+	+	-	-
2970	grn-yel	i	...	+	+	+	-	-
2971	blk	-	...	+	+	+	-	-
2972	yel	i	...	+	+	+	+	-
2973	blk, 4.51	i	...	-	-/+	-/+	i/+	-
2974	grey-blk, 3.7	i	...	-	-/+	+	i/+	i
2975	blk-grey, 2.5	-	...	-	+	+	-/+	-
2976	brn-blk, 3.0	-	i	-	-/+	+	+	+
2977	red-viol hydr	r/+	...	-	r	+	+	+
2978	yel-orange	i	i	+	i	-	-/+	+
2979	grey	-	i	-	-/+	-	-/+	-
2980	lt-grey, 19.35	-	-	-	-	-	-	-
2981	grey, 12.75	-	...	-	-	-	-/+	-
2982	grey	-	i	-	-/+	+	-	-
2983	yel-grn	i/+	...	+	+	+	+	+
2984	dk-grn	i/+	d	+	+	+	+	+
2985	blk	+	...	+	+	+	+	+
2986	dk-grey-grn	+	r	+	+	+	+	+
2987	blk-grey, 6.9	-/+	r	+	+	+	+	+
2988	dk-grey, 6.13	-	i	-	-/+	-/+	+	-
2989	red	-/+	i	-	-/+	-/+	-	-
2990	bl-blk, 5.87	-/+	i	-	-/+	-/+	-	-
2991	dk-brn	+	...	+	+	+	+	+
2992	grey-bl, 15.63	-	...	-	-	-	-	-
2993	dk-grey, 16.61	-	...	-	-	-	-	-
2994	lt-yel, 1.99	r	i	-	-/+	-/+	-	-
2995	wh, 2.65	-	d	-	-	-/+	-	-
2996	lt-grey, 5.44	i	r	+	+	+	+	+

No.	Formula and name	$M_r$	Phase transition temperature
2997	WCl <sub>3</sub> Tungsten(III) chloride	290.21	dec >200
2998	WCl <sub>4</sub> Tungsten(IV) chloride	325.66	>450 → WCl <sub>2</sub> , WCl <sub>5</sub>
2999	WCl <sub>5</sub> Tungsten(V) chloride	361.12	mp 248, bp 287
3000	WCl <sub>6</sub> Tungsten(VI) chloride	396.57	mp 275, bp 347
3001	WCl <sub>2</sub> O Tungsten dichloride-oxide	270.76	subl 500
3002	WCl <sub>3</sub> O Tungsten trichloride-oxide	306.21	290 → WCl <sub>4</sub> O, WCl <sub>2</sub> O
3003	WCl <sub>2</sub> O <sub>2</sub> Tungsten dichloride-dioxide	286.75	mp 497 dec
3004	WCl <sub>4</sub> O Tungsten tetrachloride-oxide	341.66	mp 204, bp 224
3005	WF <sub>6</sub> Tungsten(VI) fluoride	297.84	mp 2.0; bp 17.3
3006	WFe <sub>2</sub> Tungstendiiron	295.54	mp 1046
3007	[WH <sub>2</sub> (C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> ] Dihydrobis(cyclopentadienyl)tungsten	316.06	mp 163
3008	WI <sub>2</sub> Tungsten(II) iodide	437.66	>800 → W
3009	WI <sub>3</sub> Tungsten(III) iodide	564.56	600 → WI <sub>2</sub>
3010	W(I)O <sub>2</sub> Tungsten iodide-dioxide	342.75	subl >410
3011	WI <sub>2</sub> O <sub>2</sub> Tungsten diiodide-dioxide	469.66	>400 → W(I)O <sub>2</sub>
3012	WO <sub>2</sub> Tungsten(IV) oxide	215.85	mp ca. 1550, bp 1730
3013	WO <sub>3</sub> Tungsten(VI) oxide	231.85	mp 1473 (p), bp ca. 1700
3014	WO <sub>3</sub> ·H <sub>2</sub> O	249.86	100 → WO <sub>3</sub>
3015	WO <sub>3</sub> ·2H <sub>2</sub> O	267.88	70 → WO <sub>3</sub> ·H <sub>2</sub> O
3016	W(O)F <sub>4</sub> Tungsten oxide-tetrafluoride	275.84	mp 106, bp 185.9
3017	WS <sub>2</sub> Tungsten(IV) sulfide	247.98	dec 1250
3018	WSe <sub>2</sub> Tungsten(IV) selenide	341.77	dec >1000
3019	WSi <sub>2+x</sub> (0 ≤ x ≤ 0.1) Tungsten disilicide	240.02	mp 2165
<b>3020</b>	<b>Xe Xenon</b>	131.29	mp -111.85; bp -108.12
3021	Xe·5.75H <sub>2</sub> O	234.88	dec -4
3022	Xe(CF <sub>3</sub> COO) <sub>2</sub> Xenon bis(trifluoroacetate)	357.32	dec >20
3023	XeCl <sub>2</sub> Xenon dichloride	202.20	subl t, dec 80
3024	XeF <sub>2</sub> Xenon difluoride	169.29	mp 140, dec 600
3025	XeF <sub>4</sub> Xenon tetrafluoride	207.28	mp 135
3026	XeF <sub>6</sub> Xenon hexafluoride	245.28	mp 49.48; bp 75.57 dec
3027	[XeF <sub>8</sub> ](NO) <sub>2</sub> Nitrosyl octafluoroxenonate(VI)	343.29	dec 400
3028	XeO <sub>3</sub> Xenon trioxide	179.29	subl 70 dec
3029	Xe(O)F <sub>2</sub> Xenon oxide-difluoride	185.29	0.5 → XeF <sub>2</sub> , XeO <sub>2</sub> F <sub>2</sub>
3030	Xe(O)F <sub>4</sub> Xenon oxide-tetrafluoride	223.28	mp -41
3031	XeO <sub>2</sub> F <sub>2</sub> Xenon dioxide-difluoride	201.28	mp 31 dec (→ XeF <sub>2</sub> )
3032	Xe(OH) <sub>4</sub> Xenon tetrahydroxide	199.32	mp 90, bp 115 dec
<b>3033</b>	<b>Y Yttrium</b>	88.906	mp 1528, bp 3322
3034	YB <sub>6</sub> Yttrium hexaboride	153.77	mp 2300
3035	YBr <sub>3</sub> ·(9H <sub>2</sub> O) Yttrium(III) bromide	328.62	mp 905, bp 1324
3036	Y(BrO <sub>3</sub> ) <sub>3</sub> ·(9H <sub>2</sub> O) Yttrium(III) bromate	472.61	mp hydr 74
3037	Y <sub>2</sub> (C <sub>2</sub> O <sub>4</sub> ) <sub>3</sub> ·(10H <sub>2</sub> O) Yttrium(III) oxalate	441.87	hydr >700 → Y <sub>2</sub> O <sub>3</sub>
3038	YCl <sub>3</sub> ·(6H <sub>2</sub> O) Yttrium(III) chloride	195.27	mp 721, bp 1482
3039	YF <sub>3</sub> ·(0.5H <sub>2</sub> O) Yttrium(III) fluoride	145.90	mp 1155, bp 2230
3040	YH <sub>3</sub> Yttrium(III) hydride	91.93	dec 900

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
2997	blk	i/+	d	-/+	-/+	-/+	+	+
2998	blk, 4.62	+	...	+	+	+	+	+
2999	blk-grn, 3.88	+	...	+	+	+	+	+
3000	blk-viol, 3.52	+	r	+	+	+	+	+
3001	yel-brn, 5.92	-/+	i	-/+	-/+	-/+	-	-
3002	dk-grn	-/+	i	-/+	-/+	-/+	+	-/+
3003	yel	+	i	+	+	+	+	+
3004	red, 3.95	+	...	+	+	+	+	+
3005	lt-yel lq, 3.44 <sup>20</sup>	+	r	+	+	+	+	+
3006	grey	-	...	-	-/+	-/+	-	-
3007	yel	+	r	+	+	+	-/+	...
3008	lt-brn, 6.9	i	r	-/+	+	+	+	+
3009	blk	i/+	d	-/+	+	+	+	+
3010	bl-blk	-/+	i	-/+	-/+	-/+	-/+	-/+
3011	dk-grn, 6.39	+	i	+	+	+	+	+
3012	dk-brn, 11.05	-	...	-/+	-/+	+	-/+	-
3013	yel, 7.16	-	...	-	-	-	+	+
3014	yel, 5.5	i	...	-	-	-	+	+
3015	wh, 4.0	i	...	-	-	-	+	+
3016	wh	+	...	+	+	+	+	+
3017	dk-grey-sk-bl, 7.5	i	i	-	-	+	i	i
3018	dk-grey	i	...	-	-	+	-	-
3019	sk-bl-grey, 9.4	-	i	-	-	-	-/+	-
3020	cl gas, 5.85	d	r	-	-	-	-	-
3021	wh	+	+	+	+	+	+	+
3022	wh	r/+	r	-/+	+	+	+	+
3023	wh	+	+	+	...	...	+	+
3024	wh, 4.32	r	+	-	-	-	+	+
3025	wh, 4.10	+	+	+	+	+	+	+
3026	wh	+	r	+	+	+	+	+
3027	yel	+	+	+	+	+	+	+
3028	wh	r/+	+	-	-	-	+	+
3029	lt-yel	+	...	+	+	+	+	+
3030	cl lq, 3.17 <sup>20</sup>	+	...	+	+	+	+	+
3031	wh	+	...	+	+	+	+	+
3032	wh	i	...	...	...	...	-	...
3033	wh, 4.45	psv/+	-	+	+	+	-/+	+
3034	bl-viol	-	i	-	-	-	-/+	-
3035	wh	r	r	r	-/+	-	+	+
3036	wh hydr	r	d	-	-	-	+	+
3037	wh hydr	i	...	i/+	-/+	i/+	i	i
3038	wh, 2.8(2.18)	r	r	r	-	r	+	+
3039	wh, 5.069(4.01)	d	i	-	-	-	d	d
3040	bl	-/+	i	+	+	+	-	-

No.	Formula and name	$M_r$	Phase transition temperature
3041	$YI_3$ Yttrium(III) iodide	469.62	mp 997, bp 1310
3042	$Y_2(MoO_4)_3 \cdot (4H_2O)$ Yttrium(III) molybdate	657.62	dec <i>t</i>
3043	$Y(NO_3)_3 \cdot (5H_2O)$ Yttrium(III) nitrate	274.92	dec hydr < 280
3044	$Y_2O_3$ Yttrium(III) oxide	225.81	mp 2430, bp ca. 4300
3045	$Y(OH)_3$ Yttrium(III) hydroxide	139.93	>200 $\rightarrow Y_2O_3$
3046	$YPO_4$ Yttrium(III) orthophosphate	183.88	mp 1950
3047	$Y_2(SO_4)_3$ Dyttrium sulfide-dioxide	241.88	mp 2120
3048	$Y_2(SO_4)_3 \cdot (8H_2O)$ Yttrium(III) sulfate	466.00	$-H_2O$ 120, dec >900
3049	YSb Yttriumantimony	210.66	mp 2310
<b>3050</b>	<b>Yb Ytterbium</b>	173.04	mp 824, bp 1211
3051	$YbBr_2$ Ytterbium(II) bromide	332.85	mp 613, bp 1800
3052	$YbBr_3$ Ytterbium(III) bromide	412.75	mp 943, dec <i>t</i>
3053	$Yb(CH_3COO)_3 \cdot (4H_2O)$ Ytterbium(III) acetate	350.17	$-H_2O$ 100
3054	$Yb_2(C_2O_4)_3 \cdot (6H_2O)$ Ytterbium(III) oxalate	610.13	hydr >600 $\rightarrow Yb_2O_3$
3055	$YbCl_2$ Ytterbium(II) chloride	243.95	mp 702, bp 2033
3056	$YbCl_3$ Ytterbium(III) chloride	279.40	mp 865, dec 1300
3057	$YbCl_3 \cdot 6H_2O$	387.49	mp 155, $-H_2O$ 180
3058	$YbF_{2+x}$ Ytterbium(II) fluoride	211.04	mp 1407
3059	$YbF_3$ Ytterbium(III) fluoride	230.03	mp 1162, bp 2200
3060	$YbI_2$ Ytterbium(II) iodide	426.85	mp 772
3061	$Yb(NO_3)_3 \cdot (5H_2O)$ Ytterbium(III) nitrate	359.05	hydr >600 $\rightarrow Yb_2O_3$
3062	$Yb_2O_3$ Ytterbium(III) oxide	394.08	mp >2000, bp ca. 4300
3063	$Yb(OH)_3$ Ytterbium(III) hydroxide	224.06	<i>t</i> $\rightarrow Yb_2O_3$
3064	$YbSO_4$ Ytterbium(II) sulfate	269.10	dec <i>t</i>
3065	$Yb_2(SO_4)_3 \cdot (8H_2O)$ Ytterbium(III) sulfate	634.27	$-H_2O$ 600, dec 900
<b>3066</b>	<b>Zn Zinc</b>	65.39	mp 419.5; bp 906.2
3067	$(ZnAl_2)O_4$ Zinc-dialuminum tetraoxide	183.35	mp 1950 dec
3068	$Zn_3As_2$ Trizinc diarsenide	346.01	mp 1015
3069	$Zn_3(AsO_4)_2 \cdot (8H_2O)$ Zinc(II) arsenate	474.01	$-H_2O$ 290
3070	$ZnBr_2 \cdot (2H_2O)$ Zinc(II) bromide	225.20	mp hydr 37, mp 394, bp 670
3071	$Zn(BrO_3)_2 \cdot (6H_2O)$ Zinc(II) bromate	321.19	mp hydr 100; $-H_2O$ 200
3072	$Zn(CH_3COO)_2$ Zinc(II) acetate	183.48	mp 242, dec <i>t</i>
3073	$Zn(CH_3COO)_2 \cdot 2H_2O$	219.51	dec 100
3074	$Zn(CN)_2$ Zinc(II) cyanide	117.43	dec 800
3075	$ZnCO_3$ Zinc(II) carbonate	125.40	200 $\rightarrow ZnO$
3076	$ZnC_2O_4 \cdot (2H_2O)$ Zinc(II) oxalate	153.41	dec hydr 100
3077	$ZnCl_2 \cdot (1.5H_2O)$ Zinc(II) chloride	136.30	mp 293, bp 733
3078	$[ZnCl_4]_2 \cdot (NH_4)_2$ Ammonium tetrachlorozincate(II)	243.28	mp 150
3079	$Zn(ClO_3)_2 \cdot (4H_2O)$ Zinc(II) chlorate	232.29	mp hydr 53.9; dec 60
3080	$Zn(ClO_4)_2 \cdot (6H_2O)$ Zinc(II) perchlorate	264.29	mp hydr 100, dec 200
3081	$ZnF_2 \cdot (4H_2O)$ Zinc(II) fluoride	103.39	mp 872, bp 1502
3082	$Zn(HCOO)_2 \cdot (2H_2O)$ Zinc(II) formate	191.45	$-H_2O$ 120, dec >213

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
3041	wh	r	r	-	-/+	-/+	+	+
3042	grey-yel hydr, 4.79	i	i	-	-	-	-/+	-
3043	wh hydr, 2.68	r	r	-	-	r	+	+
3044	wh, 5.01	-	i	+	+	+	-	-
3045	lt-yel	i	i	+	+	+	i	i
3046	wh, 4.25	i	i	i	i	i	i	i
3047	lt-grey	-	...	+	+	+	-	-
3048	wh, 2.52(2.56)	r	i	-	r	-	+	+
3049	grey	-	i	-/+	-/+	-/+	+	-
3050	wh, 6.760	psv/+	...	+	+	+	-	-
3051	lt-yel, 5.91	r/+	...	+	+	+	+	+
3052	wh	r	r	r	-/+	-	+	+
3053	wh hydr, 2.09	r	...	-	-/+	-/+	+	+
3054	wh hydr, 2.64	i	...	-/+	i/+	-/+	i	-
3055	wh, 5.08	r/+	...	+	+	+	+	+
3056	wh	r	r	r	-	r	+	+
3057	wh, 2.58	r	r	r	-	r	+	+
3058	grey	i	...	i	-	-	i	-
3059	wh, 8.168	i	i	r	r	r	-	i
3060	lt-yel, 5.40	r	...	+	+	+	+	+
3061	wh hydr, 2.68	r	r	-	-	r	+	+
3062	wh, 9.18	-/+	-	+	+	+	-	-
3063	wh	i	...	+	+	+	i	i
3064	yel-grn	d/+	...	+	+	+	+	+
3065	wh, 3.79(3.29)	r	...	-	r	-	+	+
3066	wh, 7.133	psv	...	+	+	+	+	+
3067	wh, 4.62	-	...	-	-	-	-/+	-
3068	grey, 5.60	-	i	+	+	+	-	-
3069	wh	i	...	-/+	-/+	-/+	+	+
3070	wh, 4.20	r	r	r	-/+	-	+	+
3071	wh hydr, 2.57	r	...	-/+	-/+	r	+	+
3072	wh, 1.84	r	r	-	-/+	-	+	+
3073	wh, 1.73	r	r	-	-/+	-	+	+
3074	wh, 1.85	i	i	i/+	i/+	i/+	+	-/+
3075	wh, 4.51	i/+	...	+	+	+	+	i
3076	wh hydr	i	...	-	-/+	-/+	+	+
3077	wh, 2.91	r	r	r	r/+	r	+	+
3078	wh, 1.88	+	...	+	+	+	+	+
3079	wh hydr, 2.15	r	r	-/+	-/+	-	+	+
3080	wh hydr, 2.25	r	r	-	-	r	+	+
3081	wh, 4.95(2.54)	d/+	i	d	-/+	d	+	+
3082	wh	r	i	-/+	-/+	-	+	+

No.	Formula and name	$M_r$	Phase transition temperature
3083	ZnI <sub>2</sub> Zinc(II) iodide	319.20	mp 446, bp 624 dec
3084	Zn <sub>3</sub> N <sub>2</sub> Trizinc dinitride	224.18	dec 700
3085	[Zn(NH <sub>3</sub> ) <sub>2</sub> Cl <sub>2</sub> ] Diamminedichlorozinc	170.36	mp 210.8; dec 270
3086	Zn(NO <sub>3</sub> ) <sub>2</sub> · (6H <sub>2</sub> O) Zinc(II) nitrate	189.40	mp hydr 36.4; dec hydr >130
3087	ZnO Zinc(II) oxide	81.39	subl 1725 dec
3088	Zn(OH) <sub>2</sub> Zinc(II) hydroxide	99.40	250 → ZnO
3089	[Zn(OH) <sub>4</sub> ] <sub>2</sub> Na <sub>2</sub> Sodium tetrahydroxozincate(II)	179.40	dec >100
3090	Zn <sub>3</sub> P <sub>2</sub> Trizinc diphosphide	258.12	mp 1193
3091	Zn <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> · (4H <sub>2</sub> O) Zinc(II) orthophosphate	386.11	mp 1060
3092	α-ZnS Zinc(II) sulfide	97.46	1020 → β-ZnS
3093	β-ZnS	97.46	subl 1185, mp 1775
3094	ZnSO <sub>4</sub> Zinc(II) sulfate	161.45	dec >600
3095	ZnSO <sub>4</sub> · 7H <sub>2</sub> O	287.56	mp 100, -H <sub>2</sub> O 280
3096	ZnSb Zincantimony	187.14	mp 546 dec
3097	Zn <sub>3</sub> Sb <sub>2</sub> Trizincdiantimony	439.67	mp 566
3098	ZnSe Zinc(II) selenide	144.35	mp 1575
3099	ZnSeO <sub>4</sub> · (H <sub>2</sub> O) Zinc(II) selenate	208.35	dec hydr >50
3100	ZnSiO <sub>3</sub> Zinc(II) metasilicate	141.47	mp 1437
3101	Zn <sub>2</sub> SiO <sub>4</sub> · (H <sub>2</sub> O) Zinc(II) orthosilicate	222.86	-H <sub>2</sub> O >350, mp 1509
3102	ZnTe Zinc(II) telluride	192.99	mp 1238.5
<b>3103</b>	<b>Zr Zirconium</b>	91.224	mp 1855, bp ca. 4340
3104	ZrB <sub>2</sub> Zirconium diboride	112.85	mp 3200
3105	ZrBr <sub>4</sub> Zirconium(IV) bromide	410.84	subl 355, mp 450 ( <i>p</i> )
3106	ZrC Zirconium monocarbide	103.24	mp 3530, bp ca. 5100
3107	[Zr(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> Cl <sub>2</sub> ] Bis(cyclopentadienyl)dichlorozirconium	292.32	mp 243.5; dec <i>t</i>
3108	ZrCl <sub>2</sub> Zirconium(II) chloride	162.13	mp 722 dec
3109	ZrCl <sub>3</sub> Zirconium(III) chloride	197.58	subl 650, dec 5
3110	ZrCl <sub>4</sub> Zirconium(IV) chloride	233.04	subl 331, mp 437 ( <i>p</i> )
3111	ZrCl <sub>2</sub> O · (8H <sub>2</sub> O) Zirconium dichloride-oxide	178.13	-H <sub>2</sub> O 150, dec 250
3112	ZrF <sub>3</sub> Zirconium(III) fluoride	148.22	dec >300
3113	ZrF <sub>4</sub> Zirconium(IV) fluoride	167.22	subl 600, mp 910 ( <i>p</i> )
3114	[ZrF <sub>6</sub> ] <sub>2</sub> K <sub>2</sub> Potassium hexafluorozirconate(IV)	283.41	mp 600 dec
3115	[ZrF <sub>7</sub> ](NH <sub>4</sub> ) <sub>3</sub> Ammonium heptafluorozirconate(IV)	278.33	dec 365
3116	ZrH <sub>2</sub> Zirconium(II) hydride	93.24	dec 800
3117	[Zr(H <sub>2</sub> O) <sub>4</sub> (SO <sub>4</sub> ) <sub>2</sub> ] Tetraaquabis(sulfato)zirconium	355.41	-H <sub>2</sub> O 340, dec 400
3118	ZrI <sub>4</sub> Zirconium(IV) iodide	598.84	subl 418, mp 500 ( <i>p</i> )
3119	ZrN Zirconium mononitride	105.23	mp 2980
3120	Zr(NCS) <sub>4</sub> Zirconium(IV) thiocyanate	323.56	soft 40–50 dec
3121	ZrO <sub>2</sub> Zirconium(IV) oxide	123.22	mp 2700, bp ca. 4300
3122	ZrO <sub>2</sub> · <i>n</i> H <sub>2</sub> O	—	140 → ZrO(OH) <sub>2</sub>
3123	ZrO(OH) <sub>2</sub> Zirconium oxide-dihydroxide	141.24	1000 → ZrO <sub>2</sub>
3124	ZrP <sub>2</sub> O <sub>7</sub> Zirconium(IV) diphosphate	265.17	dec 1550
3125	ZrS <sub>2</sub> Zirconium(IV) sulfide	155.36	mp 1550
3126	ZrSi <sub>2</sub> Zirconium disilicide	147.40	mp 1520 dec
3127	ZrSiO <sub>4</sub> Zirconium(IV) orthosilicate	183.31	mp 1540, dec 1650

(Continued)

No.	Color and density	Solubility and reactivity						
		water	alcohol	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	NaOH	NH <sub>3</sub> ·H <sub>2</sub> O
3083	lt-yel, 4.74	r	r	-	-/+	-/+	+	+
3084	grey, 6.22	+	...	+	+	+	+	+
3085	wh, 2.10	+	...	+	+	+	+	+
3086	wh hydr, 2.07	r	r	-	r	r	+	+
3087	wh (t → yel), 5.61	-	i	+	+	+	+	-/+
3088	wh, 3.03	i	...	+	+	+	+	i/+
3089	wh	+	r	+	+	+	+/r	+
3090	dk-grey, 4.55	-/+	i	+	+	+	-	-
3091	wh, 4.00(3.11)	i	i	i/+	i/+	i/+	+	+
3092	wh, 3.98	i	...	+	+	+	i	i
3093	wh, 4.14	i	...	+	+	+	i	i
3094	wh, 3.74	r	d	-	r	-	+	+
3095	wh, 1.96	r	d	-	r	-	+	+
3096	grey	-	i	-/+	-/+	+	-/+	-
3097	dk-grey, 6.33	-	i	-/+	-/+	-/+	-/+	-
3098	yel, 5.42	i	i	+	+	+	i	i
3099	wh	r	...	r	r	-	+	+
3100	wh, 3.42	i	...	-/+	-/+	-/+	-/+	-
3101	wh, 4.10	i	i	+	+	+	-/+	-
3102	red, 5.64	i/+	i	+	+	+	i	i
3103	wh, 6.50	-	-	-	-/+	-	-	-
3104	grey, 6.09	-	i	+	+	+	-	-
3105	wh, 3.98	+	...	+	+	+	+	+
3106	grey, 6.62	-	...	-	-/+	-	-	-
3107	wh	+	r	+	+	+	+	+
3108	blk, 3.16	+	...	+	+	+	+	+
3109	blk-grn, 3.05	+	...	+	+	+	+	+
3110	wh, 2.80	+	r	+	+	+	+	+
3111	wh hydr, 1.91	r/+	i	+	+	+	+	+
3112	sk-bl-grey, 4.26	i	...	i	-	i	i	i
3113	wh, 4.6	+	...	+	+	+	+	+
3114	wh, 3.48	d	...	-	-	-	-/+	-
3115	wh, 1.43	d	...	-	-	-	-/+	-
3116	grey-blk	-	...	-/+	-/+	+	-/+	-
3117	wh, 2.80	r	i	+	+	+	+	+
3118	yel-orange	+	r	+	+	+	+	+
3119	yel, 7.3	-	-	-/+	-/+	-/+	-	-
3120	wh	+	...	+	+	+	+	+
3121	wh, 5.89	-	i	-	-/+	-	-	-
3122	yel	i	...	+	+	+	i	i
3123	wh, 3.25	i	...	+	+	+	i	i
3124	wh	i	...	-	-/+	-	-/+	-
3125	brn, 3.87	i	...	-	-/+	-/+	i/+	i
3126	grey, 4.88	-	...	-	-	-	-	-
3127	wh, 4.69	i	...	i	i	i	i	i

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